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1932

THE OFFICIAL STATISTICAL ANNUAL OF THE RESOURCES,
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PREFACE.

The Canada Year Book had its origin in the first year of the Dominion, when the "Year Book and Almanac of British North America"—being (to quote its sub-title) "an Annual Register of political, vital and trade statistics, customs tariffs, excise and stamp duties, and all public events of interest in Upper and Lower Canada, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland, and West Indies"—was founded. Subsequently the title was altered to "The Year Book and Almanac of Canada,—an annual statistical abstract of the Dominion and a register of legislation and of public men in British North America". It was published annually from 1867 to 1879.

In 1886, after the passing of a general Statistics Act, the "Statistical Abstract and Record of Canada" was instituted as an official book of reference respecting the institutions, population, finance, trade and general conditions of the Dominion, "with comparative data for the United Kingdom, British Possessions and foreign countries". The work was prepared in the General Statistical Office of the Department of Agriculture, and was continued annually until 1904, under the direction of Dr. George Johnson, F.S.S. In 1905 the General Statistical Office was amalgamated with the Census Office (which was at the same time made a permanent organization), and the Year Book was remodelled by Dr. Archibald Blue, Chief Officer, and continued under the title "The Canada Year Book, Second Series".

In the reorganization and centralization of statistics which followed the report of the Royal Commission on Statistics of 1912, and the establishment of the Dominion Bureau of Statistics in 1918, the improvement of the Year Book, both in content and method of presentation, was made a primary object, and this improvement has been continued down to the present time.

A feature of the Year Book has been the inclusion of special articles from time to time dealing, more fully than is possible in the regular material, with some phase of science or art or of the social or economic development of Canada. This feature has been dropped in the present edition owing to a desire to economize space and to the necessity of devoting much additional space to extensions of subject matter. In the chapter on Transportation and Communications, the development of Radio has received more attention in view of its present importance. Foreign Exchange has become a matter of such general interest that a section on this subject has been added to the chapter on Currency and Banking. The statistics on Education have been reconstructed and the Public Lands section of Chapter XXVIII has been rewritten entirely. Judicial and Penitentiary statistics have now assumed sufficient importance to warrant a separate chapter and have therefore been taken from Miscellaneous Administration where they have formerly appeared.

As the statistics on Public Health and Benevolence (Chapter XXVI) were correlated on a Dominion-wide basis for the first time at the census of 1931, this chapter has been entirely re-organized.

In order to include the latest results of the 1931 census in the chapters on Population and Agriculture, much of the material ordinarily included therein has been transferred to Appendices II and III, respectively.

The present volume has been edited by S. A. Cudmore, B.A. (Tor.), M.A. (Oxon.), F.S.S., F. R. Econ. Soc., assisted by A. E. Millward, B.A., B. Com., W. H. Lanceley, and R. F. Clarke, M.C., D.L.S., of the editorial staff of the General Statistics Branch of the Bureau. Grateful acknowledgments are hereby tendered to the numerous officials of the Dominion and Provincial Governments who have assisted in the collection of information. An effort has been made to apportion due credit to the various individuals and services concerned by means of footnotes to those chapters and sections which have been contributed, or in the compilation of which co-operation has been received.

While the greatest care has been taken in the preparation of the volume, there are doubtless imperfections and, with a view to the improvement of future editions, the Editor will be glad to hear of any errors which may have escaped his notice, and to receive any suggestions with regard to omissions or to method of treatment.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, June 1, 1932.

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STATISTICAL SUMMARY OF THE PROGRESS OF CANADA.

Area of the Dominion of Canada in square miles: Land, 3,510,008; Water, 180,035; Total, 3,690,043.

	Item.	1871.	1881.	1891.	1901.	1906.
Population¹—						
1	Prince Edward Island..... No.	94,021	108,891	109,078	103,259	98,222
2	Nova Scotia..... “	387,800	440,272	450,396	459,574	476,119
3	New Brunswick..... “	285,594	321,233	321,263	331,120	341,600
4	Quebec..... “	1,191,516	1,359,027	1,488,535	1,648,898	1,822,991
5	Ontario..... “	1,620,851	1,926,922	2,114,321	2,182,947	2,352,400
6	Manitoba..... “	25,228	62,260	152,506	255,211	365,688
7	Saskatchewan..... “	—	—	—	91,279	257,733
8	Alberta..... “	—	—	—	73,022	185,412
9	British Columbia..... “	36,247	49,459	98,173	178,657	268,276
10	Yukon Territory..... “	—	—	—	27,219	14,899
11	Northwest Territories..... “	48,000	56,446	98,967	20,129	18,364
	Canada..... “	3,689,257	4,324,810	4,833,239	5,371,315	6,201,287
Immigration (fiscal years)—						
12	From United Kingdom..... No.	—	—	11,383 ²	11,810	86,796
13	“ United States..... “	—	—	2,412 ²	17,987	57,700
14	“ Other Countries..... “	—	—	7,921 ²	19,352	44,475
	Totals..... “	27,773	47,991	21,716 ²	49,149	189,066
Agriculture—						
15	Area of occupied farms..... acre	36,046,401	45,358,141	58,997,995	63,422,338	—
16	Improved lands..... “	17,335,818	21,899,181	27,729,852	30,166,033	—
Field Crops²—						
17	Wheat..... acre	1,646,781	2,366,554	2,701,213	4,224,542	—
	“ bush.	16,723,873	32,350,269	42,223,372	55,572,368	—
	“ \$	16,993,265	38,820,323	31,667,529	36,122,039	—
18	Oats..... acre	—	—	3,961,356	5,367,655	—
	“ bush.	42,489,459	70,493,131	83,428,202	151,497,407	—
	“ \$	15,966,310	23,967,665	31,702,717	51,509,118	—
19	Barley..... acre	—	—	868,464	871,800	—
	“ bush.	11,496,038	16,844,868	17,222,795	22,224,366	—
	“ \$	8,170,735	11,791,408	8,611,397	8,889,746	—
20	Corn..... acre	—	—	195,101	360,758	—
	“ bush.	3,802,830	9,025,142	10,711,380	25,875,919	—
	“ \$	2,283,145	5,415,085	5,034,348	11,902,923	—
21	Potatoes..... acre	403,102	464,289	450,190	448,743	—
	“ bush.	47,330,187	55,368,790	53,490,857	55,362,635	—
	“ \$	15,211,774	13,288,510	21,396,342	13,840,658	—
22	Hay and clover..... acre	3,650,419	4,458,349	5,931,423	6,543,423	—
	“ ton	3,818,641	5,055,810	7,693,733	6,943,715	—
	“ \$	38,869,900	40,446,480	69,243,597	85,625,315	—
	Total Areas, Field Crops.... acre	—	—	15,662,811	19,763,740	—
	Total Values, Field Crops ² .. \$	111,116,606	155,277,427	194,766,934	237,682,285	—
Live Stock—						
23	Horses..... No.	836,743	1,059,358	1,470,572	1,577,493	—
	“ \$	—	—	—	118,279,419	—
24	Milch cows..... No.	1,251,209	1,595,800	1,857,112	2,408,677	—
	“ \$	—	—	—	69,237,970	—
25	Other cattle..... No.	1,373,081	1,919,189	2,263,474	3,167,774	—
	“ \$	—	—	—	54,197,341	—
26	Sheep..... No.	3,155,509	3,048,678	2,562,781	2,510,239	—
	“ \$	—	—	—	10,490,594	—
27	Swine..... No.	1,366,083	1,207,619	1,733,850	2,353,828	—
	“ \$	—	—	—	16,445,702	—
	Total Values, Live Stock... \$	—	—	—	268,651,026	—
Dairying²—						
28	Cheese, factory..... lb.	155,524	54,574,856	97,418,855	220,833,269	204,788,583
	“ \$	17,585	5,130,036	9,644,467	22,221,430	23,597,630
29	Butter, creamery..... lb.	981,939	1,365,912	3,654,364	36,066,739	45,930,290
	“ \$	188,532	225,375	635,859	7,240,972	10,949,060
30	Butter, home made..... lb.	74,190,584	102,545,169	111,577,210	105,343,076	—
	“ \$	14,244,592	16,919,953	19,414,435	21,384,644	—
31	Miscellaneous dairy products.. \$	—	—	—	15,623,907	—
	Total Values, Dairy Products \$	15,023,966	22,743,939	30,315,214	66,740,953	—
32	Forestry —Exports of Wood, Wood Products and Paper.... \$	—	—	25,351,085	33,099,915	45,716,700
33	Fisheries \$	7,573,199	15,817,162	18,977,874	25,737,153	26,279,400
34	Raw Furs \$	—	987,555	768,983	899,645	—

¹Estimated populations are given for inter-censal and post-censal years. *1897. *The figures for 1893 and 1921 are for the next preceding years. Export prices have been used in working out values of dairy products.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

Area of the Dominion of Canada in square miles: Land, 3,519,008; Water, 180,035; Total, 3,690,043.

1911.	1916.	1921.	1926.	1928.	1929.	1930.	1931. ⁴	
93,728	90,916	88,615	87,000	88,000	88,000	88,000	88,038	1
492,338	506,060	523,837	515,000	515,000	515,000	514,000	512,846	2
351,889	368,844	387,876	396,000	401,000	404,000	406,000	408,219	3
2,005,776	2,177,352	2,361,199	2,603,000	2,715,000	2,772,000	2,825,000	2,874,255	4
2,521,292	2,722,804	2,933,662	3,164,000	3,278,000	3,334,000	3,386,000	3,431,683	5
461,394	553,860	610,118	639,000	664,000	677,000	689,000	700,139	6
492,432	647,835	757,510	821,000	862,000	883,000	903,000	921,785	7
374,295	496,525	588,454	608,000	658,000	684,000	708,000	731,605	8
392,480	457,243	524,582	606,000	641,000	659,000	676,000	694,263	9
8,512	6,317	4,157	4,000	4,000	4,000	4,000	4,230	10
6,507	7,228	7,988	7,000	7,000	7,000	7,000	9,723	11
7,206,643	8,035,584	8,788,483	9,450,000	9,833,000	10,027,000	10,206,000	10,376,786	
123,013	8,664	74,262	37,569	50,872	58,880	64,082	27,584	12
121,451	36,937	48,059	18,778	25,007	30,560	30,727	24,280	13
66,620	2,936	26,156	39,717	75,718	78,282	68,479	36,359	14
311,084	48,537	148,477	96,064	151,597	167,722	163,288	88,223	
108,968,715	—	140,887,903	—	—	—	—	162,525,000	15
48,733,823	—	70,769,548	—	—	—	—	85,374,000	16
8,864,154	15,369,709	17,835,734	22,895,649	24,119,140	25,255,002	24,897,900	26,114,650	17
132,077,547	262,781,000	226,508,411	407,136,000	566,726,000	304,520,000	420,672,000	304,144,000	
104,816,825	344,096,400	374,178,601	442,221,000	451,235,000	319,715,000	204,693,000	117,080,000	
8,656,179	10,996,487	13,879,257	12,741,340	13,136,516	12,479,477	13,258,700	12,871,341	18
245,393,425	410,211,000	364,989,218	383,416,000	452,153,000	282,838,300	423,148,000	328,278,000	
86,796,130	210,957,500	180,989,567	184,098,000	210,956,000	168,017,000	102,919,000	77,970,000	
1,283,094	1,802,996	2,043,669	3,642,462	4,880,740	5,925,542	5,558,700	3,768,269	19
28,848,310	42,770,000	42,956,049	99,987,100	136,391,400	102,313,300	135,160,200	67,382,600	
14,653,697	35,024,000	33,514,070	52,059,000	76,112,000	60,505,000	27,254,000	17,465,000	
293,951	173,000	204,775	209,725	139,192	152,055	161,400	130,808	20
14,417,599	6,282,000	10,822,278	7,813,000	5,241,000	5,183,000	5,826,000	5,426,000	
5,774,039	6,747,000	7,081,140	7,780,000	5,860,000	5,469,000	5,054,000	2,253,000	
464,504	472,992	534,621	523,112	599,063	543,727	571,300	583,947	21
55,461,473	63,297,000	62,230,052	46,937,000 ⁵	50,195,000 ⁵	39,930,000 ⁵	48,241,000 ⁵	52,305,000 ⁵	
27,426,765	50,982,300	44,635,547	69,204,000	40,874,000	63,372,000	39,858,000	22,359,000	
8,289,407	7,821,257	8,541,093	9,516,125	10,320,863	10,560,101	10,618,200	8,532,369	22
10,406,367	14,527,000	8,593,393	14,058,000	16,515,000	15,833,000	16,397,000	13,960,000	
90,115,331	168,547,900	169,822,397	170,473,000	171,225,000	184,528,000	161,122,000	106,343,000	
30,556,168	38,930,333	47,553,418	56,097,836	59,351,811	61,207,034	62,214,670	57,964,056	
384,513,795	886,494,900	933,045,936	1,104,983,100	1,125,003,000	948,981,400	662,040,900	425,065,100	
2,598,958	3,246,430	3,624,262	3,398,114	3,376,394	3,376,487	3,295,000	3,128,996	23
381,915,505	418,686,000	440,502,040	245,119,000	255,469,000	235,971,000	202,013,000	155,908,000	
2,595,255	2,835,532	3,324,653	3,839,191	3,782,012	3,684,766	3,683,000	3,513,000	24
109,575,526	198,896,000	203,555,836	201,236,000	271,557,000	273,817,000	218,822,000	150,090,000	
3,930,823	3,763,155	5,194,831	4,731,688	4,989,647	5,139,866	5,254,000	4,478,000	25
86,278,490	204,477,000	139,590,484	148,742,000	231,287,000	239,713,000	182,263,000	110,933,000	
2,174,300	2,025,030	3,203,966	3,142,476	3,415,788	3,635,923	3,696,000	2,608,000	26
10,701,691	20,927,000	20,704,509	31,417,000	35,530,000	36,118,000	25,275,000	18,596,000	
3,634,778	3,484,982	3,404,730	4,359,582	4,487,367	4,381,725	4,000,000	4,716,720	27
26,986,621	60,700,000	36,893,244	69,958,000	66,595,000	71,111,000	58,852,000	32,773,000	
615,457,833	903,686,000	836,413,401	696,472,000	860,448,000	856,730,000	687,225,000	468,300,000	
199,904,205	192,968,597	162,117,454	171,731,631	144,584,619	118,746,286	119,105,203	—	28
21,587,124	35,512,622	28,710,030	28,807,841	30,494,463	21,471,330	18,089,870	—	29
64,489,398	82,564,130	128,744,610	177,209,287	168,027,039	170,810,230	185,751,061	—	
15,597,807	26,966,355	48,135,439	61,753,390	64,702,538	65,929,782	56,670,504	—	
137,110,200	—	100,000,000	95,000,000	90,000,000	88,000,000	84,337,000	—	30
30,269,497	—	29,840,000	28,252,777	29,103,100	28,929,000	20,710,000	—	
35,927,426	—	98,750,881	158,490,971	173,325,346	175,412,745	177,043,833	—	31
103,381,854	—	205,436,350	277,304,979	297,625,347	291,742,857	273,037,078	—	
56,334,695	83,116,282	284,561,478	278,674,960	284,543,396	288,621,745	289,566,675	230,604,474	32
34,667,872	35,860,708	34,931,935	56,360,633	55,050,973	53,518,521	47,804,216	34,100,000	33
1,927,550	—	10,151,594	15,072,244	18,758,177	18,745,473	12,158,376	11,651,221	34

⁴The figures for 1931 are subject to revision. ⁵Cwt. ⁶See Monthly Bulletin of Agricultural Statistics for May, 1921, for particulars of the values of field crops for the years, 1871, 1881, 1891 and 1901. ⁷Includes Canadian Navy. ⁸1907.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

Item.		1871.	1881.	1891.	1901.	1906.
Mineral Production—						
1	Gold	oz. 105,187	63,524	45,018	1,167,216	556,415
	\$	2,174,412	1,313,153	930,614	24,128,503	11,502,120
2	Silver.....	oz. —	355,083 ¹	414,523	5,539,192	8,473,379
	\$	—	347,271 ¹	409,549	3,265,354	5,659,455
3	Copper.....	lb. —	3,260,424 ¹	9,529,401	37,827,019	55,609,888
	\$	—	366,798 ¹	1,226,703	6,096,581	10,720,474
4	Lead.....	lb. —	204,800 ¹	88,665	51,900,958	54,608,217
	\$	—	9,216 ¹	3,857	2,249,387	3,089,187
5	Nickel.....	lb. —	830,477 ¹	4,035,347	9,189,047	21,490,956
	\$	—	498,286 ¹	2,421,208	4,594,523	8,948,834
6	Pig iron.....	ton —	24,827 ¹	23,891	274,376	598,411
	\$	—	366,192 ¹	368,901	3,512,923	7,955,136
7	Coal.....	ton —	1,063,742 ²	3,577,749	6,486,325	9,762,601
	\$	1,763,423 ²	2,688,621	7,019,425	12,699,243	19,732,019
8	Cement.....	brl. —	69,843 ¹	93,479	450,394	2,128,374
	\$	—	81,909 ¹	108,561	660,030	3,170,859
Totals, Mineral Production		\$ —	10,221,255 ³	18,976,616	65,797,911	79,286,697
Electric Statistics—						
9	Power Houses.....	No. —	—	80	58	157
10	Capital invested.....	\$ —	—	4,113,771	11,891,025	80,393,445
11	Kilowatt hours generated ⁴	No. —	—	—	—	—
12	Customers.....	No. —	—	—	—	—
Water Power—						
13	Turbine H.P. installed.....	No. —	—	71,219	238,902	608,002
Manufactures—						
14	Employees.....	No. 187,942	254,894	272,033	339,173	383,926
15	Capital.....	\$ 77,964,020	164,957,823	353,213,000	446,916,487	833,916,155
16	Salaries and wages.....	\$ 40,851,009	59,401,702	79,234,311	113,249,350	162,155,578
17	Products—					
	Gross.....	\$ 221,617,773	309,731,867	368,696,723	481,053,375	706,446,578
	Net.....	\$ 96,709,927	—	—	214,525,517	—
External Trade (fiscal years)—						
18	Exports ⁵	\$ 57,630,024	83,944,701	88,671,738	177,431,386	235,483,956
19	Imports ⁷	\$ 84,214,388	90,488,329	111,533,954	177,930,919	283,740,280
Totals, External Trade ..		\$ 141,844,412	174,433,030	200,205,692	355,362,305	519,224,236
20	Exports to United Kingdom..	\$ 21,733,556	42,637,219	43,243,784	92,857,525	127,456,465
21	Imports from United Kingdom	\$ 48,498,202	42,885,142	42,018,943	42,820,334	69,183,915
22	Exports to United States.....	\$ 29,164,358	34,038,431	37,743,430	67,983,673	83,546,302
23	Imports from United States...	\$ 27,185,586	36,338,701	52,033,477	107,377,906	169,256,456
Exports, Domestic, by Chief Items—						
24	Wheat.....	bush. 1,748,977	2,523,673	2,108,216	9,739,758	40,399,402
	\$	1,981,917	2,593,820	1,583,084	6,871,939	33,658,391
25	Wheat flour.....	brl. 306,339	439,728	296,784	1,118,700	1,532,014
	\$	1,609,849	2,173,108	1,388,578	4,015,226	6,179,825
26	Oats.....	bush. 542,386	2,926,532	260,560	8,155,063	2,700,303
	\$	231,227	1,791,873	129,917	2,490,521	1,083,347
27	Hay.....	ton 23,487	168,381	65,083	252,977	206,714
	\$	290,217	1,813,208	559,489	2,097,882	1,529,941
28	Bacon and hams, shoulders and sides.	\$ 103,444	103,547	75,541	1,055,495	1,029,079
	\$	1,018,918	758,334	628,469	11,778,446	12,086,868
29	Butter.....	lb. 15,439,266	17,649,491	3,768,101	16,335,528	34,031,525
	\$	3,065,234	3,573,034	602,175	3,295,663	7,075,539
30	Cheese.....	lb. 8,271,439	49,255,523	106,202,140	195,926,697	215,834,543
	\$	1,109,906	5,510,443	9,508,800	20,696,951	24,433,169
31	Gold.....	\$ 163,037	767,318	554,126	24,445,156	12,991,916
32	Silver.....	oz. —	—	—	4,022,019	7,261,527
	\$	595,261	34,494	238,367	2,420,750	4,310,528
33	Copper ⁸	lb. 6,246,000	39,604,000	10,994,498	26,345,776	44,282,348
	\$	120,121	150,412	505,196	2,659,261	7,148,633
34	Nickel.....	lb. —	—	5,352,043	9,537,558	23,959,841
	\$	—	—	240,499	958,365	2,166,936
35	Coal.....	ton 318,287	420,055	833,684	1,888,538	1,820,511
	\$	662,451	1,123,091	2,916,465	5,307,060	4,643,198
36	Asbestos.....	ton —	—	7,022	26,715	57,075
	\$	—	—	513,909	864,573	1,578,137
37	Wood pulp.....	cwt. —	—	—	—	—
	\$	—	—	280,619	1,937,207	3,478,150
38	Newsprint paper.....	cwt. —	—	—	—	—
	\$	—	—	—	—	—

¹ 1887. ² 1874. ³ 1886. ⁴ 000's omitted. ⁵ The statistics of manufactures in 1871 and 1881 include works employing fewer than 5 hands, while those of 1891, 1901, 1911 and 1916 are for works with 5 hands and over, except in the case of butter and cheese factories, flour and grist mills, electric light plants, lumber, lath and shingle mills, lime kilns, brick and tile works, and fish canneries. The figures for these years are

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

1911.	1916.	1921.	1926.	1928.	1929.	1930.	1931.	
473, 159	930, 492	926, 329	1, 754, 228	1, 890, 592	1, 928, 308	2, 102, 068	2, 695, 219	1
9, 781, 077	19, 234, 976	19, 148, 920	36, 263, 110	39, 082, 005	39, 881, 663	43, 453, 601	55, 715, 120	2
32, 559, 044	25, 459, 741	13, 543, 198	22, 371, 924	21, 936, 407	23, 143, 261	26, 443, 823	20, 558, 216	3
17, 355, 272	16, 717, 121	8, 485, 355	13, 894, 531	12, 761, 725	12, 264, 308	10, 089, 376	6, 140, 739	4
55, 648, 011	117, 150, 028	47, 620, 820	133, 094, 942	202, 696, 046	248, 120, 760	303, 478, 356	293, 154, 655	5
6, 886, 998	31, 867, 150	5, 953, 555	17, 490, 300	28, 598, 249	43, 415, 251	37, 948, 359	24, 185, 119	6
23, 784, 969	41, 497, 615	66, 679, 592	283, 801, 265	337, 946, 688	326, 522, 566	332, 894, 163	267, 339, 203	7
827, 717	3, 532, 692	3, 828, 742	19, 240, 661	15, 553, 231	16, 544, 248	13, 102, 635	7, 260, 060	8
34, 098, 744	82, 958, 564	19, 293, 060	65, 714, 294	96, 755, 578	110, 275, 912	103, 768, 857	65, 666, 322	9
10, 229, 623	29, 035, 498	6, 752, 571	14, 374, 163	22, 318, 907	27, 115, 461	24, 455, 133	15, 267, 453	10
917, 535	1, 169, 257	665, 676	820, 426	1, 162, 254	1, 209, 779	836, 839	470, 443	11
12, 307, 125	16, 750, 898	15, 511, 828	16, 011, 173 ¹⁰	20, 754, 500 ¹⁰	21, 603, 200 ¹⁰	14, 345, 800 ¹⁰	7, 863, 111 ¹⁰	12
11, 323, 388	14, 483, 395	15, 057, 495	16, 478, 131	17, 564, 293	11, 496, 557	14, 881, 324	12, 230, 616	13
26, 467, 646	38, 817, 481	72, 451, 656	59, 875, 094	63, 757, 833	63, 065, 170	52, 849, 748	41, 178, 107	14
5, 692, 915	5, 369, 560	5, 752, 885	8, 707, 021	11, 023, 928	12, 284, 081	11, 032, 538	10, 161, 658	15
7, 644, 537	6, 547, 728	14, 195, 143	13, 013, 283	16, 739, 163	19, 337, 235	17, 713, 067	15, 826, 243	16
103, 220, 994	177, 201, 534	171, 923, 342	240, 437, 123	274, 989, 487	310, 850, 246	279, 873, 578	227, 456, 365	17
266	307	510	595	601	585	587	-	18
110, 838, 746	248, 573, 546	484, 669, 451	756, 220, 066	956, 919, 603	1, 055, 731, 532	1, 138, 200, 016	-	19
-	-	5, 614, 132	12, 093, 445	16, 336, 518	17, 962, 515	18, 093, 802	-	20
-	-	973, 212	1, 337, 562	1, 464, 005	1, 555, 883	1, 607, 766	-	21
1, 363, 134	2, 222, 169	2, 754, 157	4, 549, 383	5, 349, 232	5, 727, 162	6, 125, 012	6, 666, 337	22
515, 203	-	456, 076	581, 539	658, 023	694, 434	644, 439	-	23
1, 247, 583, 609	1, 958, 705, 230	3, 190, 026, 358	3, 981, 569, 590	4, 780, 296, 049	5, 083, 014, 754	5, 203, 316, 760	-	24
241, 008, 416	283, 311, 505	518, 785, 137	653, 850, 933	755, 199, 372	813, 049, 842	736, 092, 766	-	25
1, 165, 975, 639	1, 381, 547, 225	2, 576, 037, 029	3, 247, 803, 438	3, 769, 847, 364	4, 063, 987, 279	3, 428, 970, 628	-	26
564, 466, 621	589, 603, 792	1, 209, 143, 344	1, 492, 645, 039	1, 819, 046, 025	1, 997, 350, 365	1, 761, 986, 726	-	27
274, 316, 553	741, 610, 638	1, 189, 163, 701	1, 315, 355, 791	1, 228, 349, 343	1, 363, 709, 672	1, 120, 258, 302	799, 742, 667	28
452, 724, 603	508, 201, 134	1, 240, 158, 882	927, 328, 732	1, 108, 956, 466	1, 265, 679, 091	1, 248, 273, 582	906, 612, 695	29
727, 041, 156	1, 249, 811, 772	2, 429, 322, 583	2, 242, 684, 523	2, 337, 305, 809	2, 629, 388, 763	2, 368, 531, 884	1, 706, 355, 362	30
132, 156, 924	451, 852, 399	312, 844, 871	508, 237, 560	410, 691, 392	429, 730, 485	281, 745, 965	219, 246, 499	31
109, 934, 753	77, 404, 361	213, 973, 562	163, 731, 210	186, 435, 824	194, 041, 381	189, 179, 738	149, 497, 392	32
104, 115, 823	201, 106, 488	542, 322, 867	474, 987, 367	478, 145, 383	499, 612, 145	515, 049, 763	349, 660, 563	33
275, 824, 265	370, 880, 549	856, 176, 820	608, 618, 542	718, 890, 270	868, 012, 229	847, 442, 037	584, 407, 018	34
45, 802, 115	157, 745, 469	129, 215, 157	249, 679, 470	266, 902, 189	370, 459, 551	177, 006, 369	217, 243, 037	35
45, 521, 134	172, 896, 445	310, 952, 138	364, 364, 388	352, 117, 150	428, 524, 326	215, 753, 475	177, 419, 769	36
3, 049, 046	6, 400, 214	6, 017, 032	10, 084, 974	9, 387, 273	11, 405, 728	7, 893, 960	7, 218, 188	37
13, 854, 790	35, 767, 044	66, 520, 490	69, 687, 598	59, 879, 302	65, 117, 779	45, 457, 195	32, 876, 234	38
5, 431, 662	26, 816, 322	14, 321, 048	43, 058, 283	7, 158, 723	15, 657, 348	6, 406, 181	3, 258, 501	39
2, 144, 846	14, 637, 849	14, 152, 033	24, 237, 692	4, 275, 353	10, 241, 938	4, 055, 855	1, 146, 266	40
326, 132	255, 407	179, 398	368, 787	171, 164	113, 763	162, 188	156, 722	41
2, 723, 291	5, 849, 426	4, 210, 594	3, 711, 840	1, 684, 100	1, 127, 270	2, 007, 944	1, 590, 657	42
598, 745	1, 536, 517	982, 338	1, 253, 760	568, 447	366, 582	267, 026	121, 770	43
8, 526, 332	27, 090, 113	31, 492, 407	28, 590, 301	11, 940, 909	7, 874, 026	6, 579, 726	2, 914, 273	44
3, 142, 682	3, 441, 183	9, 739, 414	23, 303, 865	2, 643, 300	1, 889, 200	1, 309, 400	1, 162, 600	45
744, 288	1, 018, 769	5, 128, 831	8, 773, 125	1, 053, 553	764, 836	543, 851	389, 419	46
181, 895, 724	168, 961, 583	133, 620, 340	148, 333, 500	105, 212, 600	112, 609, 200	92, 293, 700	79, 590, 400	47
20, 739, 507	26, 690, 500	37, 146, 722	33, 718, 587	21, 100, 625	25, 181, 853	18, 278, 004	12, 989, 726	48
5, 344, 465	16, 870, 394	3, 038, 779	25, 968, 094	9, 035, 734	12, 396, 444	34, 375, 003	17, 832, 608	49
33, 731, 010	27, 794, 566	13, 331, 050	18, 362, 415	21, 370, 047	20, 768, 081	22, 576, 768	24, 696, 827	50
17, 269, 168	14, 298, 351	11, 127, 432	12, 365, 576	11, 861, 537	11, 962, 928	11, 569, 855	8, 927, 216	51
55, 005, 342	111, 046, 300	36, 167, 900	61, 090, 600	74, 945, 500	85, 590, 600	82, 084, 600	62, 997, 100	52
5, 675, 033	14, 670, 073	4, 336, 972	7, 037, 206	7, 083, 725	7, 936, 179	8, 769, 586	5, 629, 512	53
34, 767, 523	70, 443, 000	47, 018, 300	71, 081, 400	78, 228, 500	107, 482, 200	106, 517, 500	81, 929, 300	54
3, 842, 332	7, 714, 769	9, 405, 291	12, 829, 244	17, 026, 304	23, 880, 492	25, 034, 975	18, 246, 375	55
2, 315, 171	1, 971, 124	2, 277, 202	753, 842	884, 097	841, 493	728, 267	534, 710	56
6, 014, 095	6, 032, 765	16, 501, 478	4, 083, 713	4, 653, 816	4, 402, 028	3, 917, 650	2, 896, 837	57
69, 829	88, 833	191, 299	209, 652	204, 127	268, 879	286, 497	219, 541	58
2, 076, 477	2, 962, 010	12, 633, 389	9, 920, 900	10, 677, 171	11, 267, 188	12, 074, 065	7, 719, 974	59
6, 588, 655	8, 144, 019	14, 363, 006	19, 812, 381	17, 886, 405	16, 950, 165	17, 261, 954	13, 862, 122	60
5, 715, 632	10, 376, 548	71, 552, 037	49, 909, 870	47, 261, 235	44, 895, 717	44, 704, 958	35, 061, 689	61
-	9, 264, 080	15, 112, 586	29, 537, 366	39, 417, 522	45, 264, 586	49, 800, 821	14, 848, 479	62
3, 092, 437	17, 974, 292	78, 922, 137	102, 238, 568	128, 507, 101	142, 343, 064	145, 610, 519	127, 352, 706	63

for the preceding years in each case. From 1922 statistics are exclusive of construction, hand trades, repair and custom work. Figures for 1925-30 include non-ferrous metal smelting not included in earlier years. ⁶Exports of domestic merchandise only. ⁷Imports of merchandise for home consumption.

⁸Copper, fine, contained in ore, matte, regulus, etc. ⁹The figures for 1931 are subject to revision.

¹⁰Estimated on the basis of sales. ¹¹The figures are for 1889.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

	Item.	1871.	1881.	1891.	1901.	1906.
Exports, Domestic, by Classes—						
1	Vegetable products (except chemicals, fibres and wood) .. \$	—	—	13,742,557	25,541,567	55,828,250
2	Animals and their products (except chemicals and fibres) .. \$	—	—	36,399,140	68,465,332	84,570,644
3	Fibres, textiles and textile products..... \$	—	—	872,628	1,880,539	2,602,903
4	Wood, wood products and paper .. \$	—	—	25,351,085	33,099,915	45,716,762
5	Iron and its products..... \$	—	—	556,527	3,778,897	4,705,296
6	Non-ferrous metals and their products..... \$	—	—	1,618,955	33,395,096	28,455,786
7	Non-metallic minerals and their products (ex. chemicals) .. \$	—	—	3,988,584	7,356,444	7,817,474
8	Chemicals and allied products.. \$	—	—	851,211	791,855	1,784,804
9	All other commodities..... \$	—	—	5,291,051	3,121,741	4,002,038
	Totals, Exports, Domestic .. \$	57,630,024	83,944,701	88,671,738	177,431,386	235,483,954
Imports for Consumption—						
10	Vegetable products (except chemicals, fibres and wood) .. \$	—	—	24,212,140	38,036,146	50,307,368
11	Animals and their products (except chemicals and fibres) .. \$	—	—	8,080,862	14,022,896	23,616,835
12	Fibres, textiles and textile products..... \$	—	—	28,670,141	37,284,752	59,292,868
13	Wood, wood products and paper .. \$	—	—	5,203,490	8,196,901	14,341,947
14	Iron and its products..... \$	—	—	15,142,615	29,955,936	49,436,846
15	Non-ferrous metals and their products..... \$	—	—	3,810,626	7,167,318	17,533,436
16	Non-metallic minerals and their products (except chemicals) .. \$	—	—	14,139,024	21,255,403	33,757,284
17	Chemicals and allied products.. \$	—	—	3,697,810	5,684,999	8,269,169
18	All other commodities..... \$	—	—	8,577,246	16,326,568	27,184,539
	Totals, Imports..... \$	84,214,388	90,488,329	111,533,954	177,930,919	283,740,280
Steam Railways—						
19	Miles in operation..... No.	2,695	7,331	13,838	18,140	21,353
20	Capital..... \$	257,035,188 ¹	284,419,293	632,061,440	816,110,837	1,065,881,629
21	Passengers..... No.	5,190,416 ²	6,943,671	13,222,568	18,385,722	27,989,782
22	Freight..... ton	5,670,836 ²	12,065,323	21,753,021	36,999,371	57,966,713
23	Earnings..... \$	19,470,539 ²	27,987,509	48,192,099	72,898,749	125,322,865
24	Expenses..... \$	15,775,532 ²	20,121,418	34,960,449	50,368,726	87,129,434
Electric Railways—						
25	Miles in operation..... No.	—	—	—	675	814
26	Capital..... \$	—	—	—	—	—
27	Passengers..... No.	—	—	—	120,934,656	237,655,074
28	Freight..... ton	—	—	—	287,926	506,024
29	Earnings..... \$	—	—	—	5,768,283	10,966,871
30	Expenses..... \$	—	—	—	3,435,162	6,675,037
Canals—						
31	Passengers carried .. No.	100,877	118,136	146,336	190,428	256,500
32	Freight..... ton	3,955,621	2,853,230	2,902,526	5,665,259	10,523,185
Shipping (Sea-going)—						
33	Entered..... ton	2,521,573	4,032,946	5,273,935	7,514,732	8,895,353
34	Cleared..... "	2,594,460	4,071,391	5,421,261	7,028,330	7,948,076
35	Totals..... "	5,116,033	8,104,337	10,695,196	14,543,062	16,843,429
Shipping (Inland International)—						
36	Entered..... ton	4,055,198	2,934,503	4,098,434	5,720,575	9,352,653
37	Cleared..... "	3,954,797	2,763,592	4,009,018	5,766,171	8,536,090
38	Totals..... "	8,009,995	5,698,095	8,107,452	11,486,746	17,888,743
Shipping (Coastwise)—						
39	Entered..... ton	—	7,664,863	12,835,774	17,927,959	23,543,604
40	Cleared..... "	—	7,451,903	12,150,356	16,516,832	22,780,458
41	Totals..... "	—	15,116,766	24,986,130	34,444,796	46,324,062
Communications—						
42	Telegraphs, Government, miles of line.....	—	1,947	2,699	5,744	6,829
43	Telegraphs, other, miles of line.	—	—	27,866	30,194	31,506
44	Telephones..... No.	—	—	—	63,192	—
45	Motor vehicles..... "	—	—	—	—	2,130 ³

¹1876. ²1875. ³Motor vehicles in 6 provinces numbered 2,130 in 1907.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

1911.	1916.	1921.	1926.	1928.	1929.	1930.	1931. ⁴	
84,368,425	257,019,215	482,140,444	606,058,672	555,110,598	646,514,058	384,635,751	292,280,037	1
69,693,263	138,375,083	188,359,937	190,975,417	165,845,096	158,757,272	133,009,145	83,714,772	2
1,818,931	15,097,691	18,783,884	8,940,046	10,904,073	9,678,019	9,066,226	6,504,182	3
56,334,695	83,116,282	284,561,478	278,674,960	284,543,396	288,621,745	289,566,675	230,604,474	4
9,884,346	66,127,099	76,500,741	74,735,077	62,753,934	82,256,717	78,589,580	38,937,661	5
34,000,996	66,036,542	45,939,377	97,476,270	90,840,441	112,778,194	154,319,429	95,652,063	6
10,038,493	12,096,973	40,345,345	24,712,584	25,949,930	27,401,790	28,545,096	21,107,780	7
3,088,840	15,961,226	20,142,826	17,354,389	17,365,516	19,438,064	22,468,462	12,825,852	8
5,088,564	87,780,527	32,389,669	16,428,376	15,036,359	18,263,813	20,057,938	18,115,846	9
274,316,553	741,610,638	1,189,163,701	1,315,355,791	1,228,349,343	1,363,709,672	1,120,258,302	799,742,667	
79,214,041	95,421,161	259,431,110	203,417,431	238,185,560	233,130,244	227,048,817	177,628,778	10
30,671,908	38,657,514	61,722,390	49,185,558	65,790,021	71,661,754	69,853,833	45,995,705	11
87,916,282	96,191,485	243,608,342	184,761,831	186,994,462	206,439,173	185,241,252	130,717,022	12
26,851,936	18,277,420	57,449,384	40,403,096	51,750,924	59,214,818	60,951,077	46,042,029	13
91,968,180	92,065,895	245,625,703	181,196,800	259,575,020	346,615,810	316,878,627	194,888,443	14
27,579,572	29,431,592	55,651,319	47,692,985	60,190,036	75,438,431	87,950,252	59,623,263	15
53,430,475	53,490,284	206,095,113	139,033,940	153,049,438	166,964,231	186,496,388	153,578,658	16
12,471,730	19,217,505	37,887,449	28,404,276	33,572,113	37,723,046	39,907,503	35,650,772	17
42,620,479	65,448,278	72,688,072	53,232,815	59,485,892	68,491,584	73,945,833	62,488,025	18
452,724,603	508,201,134	1,240,158,882	927,328,732	1,108,956,466	1,265,679,091	1,248,273,582	906,612,695	
25,400	37,434	39,363	40,352	41,024	41,409	42,075	42,290	19
1,528,689,201	1,893,125,774	2,164,687,636	3,560,948,932	3,722,476,251	3,966,357,355	4,101,124,843	—	20
37,097,718	43,503,459	46,793,251	42,686,166	40,592,792	39,070,893	34,693,767	26,400,000	21
79,884,282	109,659,088	103,131,132	122,476,822	141,230,026	137,855,151	115,229,511	88,440,000	22
188,733,494	261,888,654	458,008,891	493,599,754	563,732,260	534,106,945	454,231,650	361,323,000	23
131,034,785	180,542,259	422,581,205	389,503,452	442,701,270	433,077,113	380,723,411	321,620,000	24
1,224	1,674	1,687	1,684	1,653	1,637	1,509	—	25
111,532,347	154,895,584	177,187,436	215,808,520	221,302,236	222,422,815	224,089,539	—	26
426,296,792	580,094,167	719,305,441	748,710,836	808,023,615	836,729,851	792,701,493	—	27
1,228,362	1,936,674	2,285,886	3,493,457	3,892,114	3,662,765	2,873,528	—	28
20,356,952	27,416,285	44,536,833	51,723,199	55,632,761	58,268,981	54,719,250	—	29
12,096,134	18,099,906	35,945,316	36,453,709	38,782,719	40,085,140	39,125,515	—	30
304,904	263,648	230,129	197,561	188,146	164,552	133,266	126,633	31
38,030,353	23,583,491	9,407,021	13,477,663	18,720,441	13,699,647	14,803,334	16,189,074	32
11,919,339	12,616,927	12,516,503	22,837,720	24,240,847	27,464,158	27,155,766	28,064,762	33
10,377,847	12,210,723	12,400,226	22,917,276	23,973,787	26,944,369	25,836,466	26,535,387	34
22,297,186	24,827,656	24,916,729	45,654,996	48,214,634	54,408,527	52,992,232	54,600,149	35
13,286,102	16,486,778	14,828,454	14,117,099	16,745,632	18,987,751	17,550,585	17,769,690	36
11,846,257	16,406,670	14,903,447	15,474,732	18,843,531	20,338,949	18,895,972	18,542,037	37
25,132,359	32,893,448	29,731,901	29,591,831	35,589,163	39,326,700	36,446,557	36,311,727	38
34,280,669	35,624,074	28,567,545	41,770,480	45,381,586	49,046,588	43,666,866	47,134,652	39
32,347,265	33,085,350	27,773,668	41,117,175	44,146,030	48,007,097	44,067,907	47,540,555	40
66,627,934	68,709,424	56,341,213	82,887,655	89,527,616	97,053,685	87,734,773	94,675,207	41
8,446	10,699	11,207	10,722	10,765	9,848	9,351	9,300	42
33,905	38,552	41,577	42,239 ⁵	43,012	42,987	43,473	43,927	43
302,759	548,421	902,090	1,201,008	1,334,534	1,382,822	1,402,861	—	44
21,519	123,464	465,378	836,794	1,076,819	1,195,594	1,239,888	1,206,836	45

⁴The figures for 1931 are subject to revision. ⁵Excluding U.S. lines of Canadian National Telegraphs

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued.

	Item.	1871.	1881.	1891.	1901.	1906.
	Post Office—					
1	Revenue..... \$	803,637	1,344,970	2,515,823	3,421,192	5,993,343
2	Expenditure..... \$	994,876	1,876,658	3,161,676	3,837,376	4,921,577
3	Money orders issued..... \$	4,546,434	7,725,212	12,478,178	17,956,258	37,355,675
	Dominion Finance—					
4	Customs Revenue..... \$	11,841,105	18,406,092	23,305,218	28,293,930	46,053,377
5	Excise Revenue..... \$	4,295,945	5,343,022	6,914,850	10,318,266	14,010,220
6	Total Ordinary Revenue..... \$	19,335,561	29,635,298	38,579,311	52,514,701	80,139,369
7	Revenue per head..... \$	5.50	6.83	7.96	9.72	12.99
8	Total Ordinary Expenditure..... \$	15,623,082	25,502,554	36,343,568	46,866,368	67,240,641
9	Expenditure per head..... \$	4.44	5.88	7.50	8.67	10.91
10	Total Disbursements..... \$	19,293,478	33,796,643	40,793,208	57,982,866	83,277,643
11	Disbursements per head..... \$	5.48	7.79	8.42	10.73	13.49
12	Gross Debt..... \$	115,492,683	199,861,537	289,899,230	354,732,433	392,269,680
13	Assets..... \$	37,786,165	44,465,757	52,090,199	86,252,429	125,226,702
	Net Debt..... \$	77,706,518	155,395,780	237,809,031	268,480,004	267,042,978
	Provincial Finance—					
14	Revenue, Ordinary, Totals.... \$	5,518,946	7,858,698	10,693,815	14,074,991	23,027,122
15	Expenditure, Ordinary, Totals \$	4,935,008	8,119,701	11,628,353	14,146,059	21,169,868
	Note Circulation—					
16	Bank Notes..... \$	20,914,637	28,516,692	33,061,042	50,610,205	70,638,870
17	Dominion Notes..... \$	7,244,341	14,539,795	16,176,316 ⁵	27,898,509 ⁵	49,941,426 ⁵
	Chartered Banks—					
18	Capital, paid-up..... \$	37,095,340	59,534,977	60,700,697	67,035,615	91,035,604
19	Assets..... \$	125,273,631	200,613,879	269,307,032	531,829,324	878,512,076
20	Liabilities to the public..... \$	80,250,974	127,176,249	187,332,325	420,003,743	713,790,553
21	Deposits payable on demand..... \$	—	—	—	95,169,631	165,144,569
22	Deposits payable after notice..... \$	—	—	—	221,624,664	381,778,705
	Totals, Deposits ² \$	56,287,391	94,346,481	148,396,968	349,573,327	605,968,513
	Savings Banks—					
23	Deposits in Post Office..... \$	2,497,260	6,208,227	21,738,648	39,950,813	45,736,488
24	Deposits in Government Banks..... \$	2,072,037	9,628,445	17,661,378	16,098,144	16,174,134
25	Deposits in Special Banks..... \$	5,766,712	7,685,888	10,982,232	19,125,097	27,399,194
	Loan Companies³—					
26	Assets..... \$	8,392,464	73,906,638	125,041,146	158,523,307	232,076,447
27	Liabilities..... \$	8,392,464	71,965,017	123,915,704	158,523,307	232,076,447
28	Deposits..... \$	2,399,136	13,460,268	18,482,959	26,756,910	23,046,194
	Trust Companies—					
29	Shareholders' assets..... \$	—	—	—	—	—
30	Trust funds, liabilities..... \$	—	—	—	—	—
	Dominion Fire Insurance—					
31	Amount at risk, Dec. 31..... \$	228,453,784	462,210,968	759,602,191	1,038,687,619	1,443,902,244
32	Premium income for year..... \$	2,321,716	3,827,116	6,168,716	9,650,348	14,687,963
	Provincial Fire Insurance—					
33	Amount at risk, Dec. 31..... \$	—	—	—	—	—
34	Premium income for year..... \$	—	—	—	—	—
	Dominion Life Insurance¹—					
35	Amount at risk, Dec. 31..... \$	45,825,935	103,290,932	261,475,229	463,769,034	656,260,900
36	Premium income for year..... \$	1,852,974	3,094,689	8,417,702	15,189,854	22,364,456
	Provincial Life Insurance—					
37	Amount at risk, Dec. 31..... \$	—	—	—	—	—
38	Premium income for year..... \$	—	—	—	—	—
	Business Transacted—					
39	Bank clearings..... Thousands of \$	—	—	580,644	1,871,062	3,950,701
40	Bank debits..... Thousands of \$	—	—	—	—	—
	Education—					
	(Provincial Schools only)					
41	Enrolment..... No.	803,000	891,000	993,000	1,083,000	1,173,000
42	Average daily attendance..... “	—	—	—	669,000	743,490
43	Number of teachers..... “	13,559	18,016	23,718	27,126	32,250
44	Totals, Public Expenditure on.. \$	—	—	—	11,044,925	16,368,244

¹ Figures do not include fraternal insurance. ² Including amounts deposited elsewhere than in Canada from 1901-29. ³ Including Building Societies and Trust Companies (1871-1911). ⁴ The figures for 1933 are subject to revision. ⁵ As at June 30. ⁶ Active assets only. ⁷ Included in Post Office savings banks.

NOTE.

In the foregoing Summary, the statistics of immigration, fisheries (1871-1916), trade, shipping, the Post Office, the public debt, revenue and expenditure and the Post Office and Government savings banks

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—concluded.

1911.	1916.	1921.	1926.	1928.	1929.	1930.	1931. ⁴	
9,146,952	18,858,410	26,331,119	31,024,464	30,529,155	31,170,904	32,969,293	30,416,106	1
7,954,223	16,009,139	24,661,262	30,499,686	32,379,196	33,483,058	35,036,629	36,292,603	2
70,614,862	94,469,871	173,523,322	177,840,231	200,773,403	203,129,237	197,699,353	167,749,651	3
71,838,089	98,649,409	163,266,804	127,355,143	156,985,818	187,206,332	179,429,920	131,208,955	4
16,869,837	22,428,492	37,118,367	42,923,549	57,400,898	63,684,954	65,035,701	57,746,808	5
117,780,409	172,147,838	434,386,537	380,745,506	422,717,983	455,463,874	441,411,806	349,587,299	6
16-34	21-42	49-64	40-52	43-69	45-89	43-69	34-33	7
87,774,198	130,350,727	361,118,145	320,660,479	336,167,961	350,952,924	357,779,794	389,558,289	8
12-18	16-22	41-09	33-93	34-19	35-00	35-06	37-55	9
122,861,250	339,702,052	528,283,199	355,186,423	378,658,440	388,805,953	398,176,246	440,008,855	10
17-04	42-27	60-11	37-59	38-51	38-78	39-01	42-41	1
474,941,487	936,987,802	2,902,482,117	2,768,779,184	2,677,137,243	2,647,033,973	2,544,586,411	2,610,265,698	12
134,899,435	321,831,631	561,603,133 ^a	379,048,085 ^b	380,287,010 ^c	421,529,268 ^d	366,822,452 ^e	348,653,762 ^f	13
340,042,052	615,156,171	2,340,878,984	2,389,731,099	2,296,850,233	2,225,504,705	2,177,763,959	2,261,611,936	
40,706,948	50,015,795	102,030,458	146,450,904	168,109,505	183,598,024	188,084,468	-	14
38,144,511	53,826,219	102,569,515	144,183,178	165,583,910	177,542,192	185,108,139	-	15
89,982,223	126,691,913	194,621,710	168,885,995	176,716,979	178,291,030	159,341,085	141,969,350	16
99,921,354	176,816,006	271,531,162	190,004,824	201,171,816	204,381,409	174,616,019	153,079,362	17
103,009,256	113,175,353	129,096,339	116,638,254	122,839,879	137,269,085	144,560,874	144,674,853	18
1,303,131,260	1,839,286,709	2,841,782,079	2,864,019,213	3,323,163,195	3,528,468,027	3,237,073,853	3,066,018,472	19
1,097,661,393	1,596,905,337	2,556,454,190	2,604,601,786	3,044,742,165	3,215,503,098	2,909,530,263	2,741,554,219	20
304,801,755	428,717,781	551,914,643	553,322,935	677,467,295	696,387,381	622,895,347	578,604,394	21
568,976,209	780,842,383	1,289,347,063	1,340,559,021	1,496,608,451	1,479,870,058	1,427,569,716	1,437,976,149	22
980,433,788	1,418,035,429	2,264,586,736	2,277,192,043	2,610,594,865	2,696,747,857	2,516,611,587	2,422,834,828	
43,330,579	40,008,418	29,010,619	24,035,669	23,463,210	28,375,770	26,086,036	24,750,227	23
14,673,752	13,519,855	10,150,189	8,794,875	7,640,566	7	7	7	24
34,770,386	40,405,037	58,576,775	67,241,344	72,695,422	70,809,603	68,846,366	69,820,422	25
389,701,988	70,872,297	96,698,810	120,321,095	134,793,527	135,358,095	143,312,308	-	26
389,701,988	70,872,297	95,281,122	119,455,317	134,633,354	134,654,166	143,307,739	-	27
33,742,513 ¹	8,987,720	15,868,926	21,316,150	30,671,257	29,602,789	31,681,931	-	28
-	7,826,943	10,237,930	13,195,277	14,766,284	14,669,497	14,870,126	-	29
-	47,162,220	87,811,965	157,756,647	226,760,909	234,470,989	233,549,603	-	30
2,279,868,346	3,720,058,236	6,020,513,832	8,051,444,136	8,761,579,512	9,431,169,594	9,672,996,973	9,549,158,193	31
20,575,255	27,783,852	47,312,564	52,595,923	54,826,851	56,112,457	52,646,520	50,616,654	32
-	849,915,678	1,269,764,435	1,286,255,476	1,277,158,461	1,305,123,764	1,290,302,102	1,280,923,112	33
-	3,902,504	5,545,549	6,068,701	5,488,950	5,400,527	5,505,600	6,848,712	34
950,220,771	1,422,179,632	2,934,843,848	4,610,196,334	5,607,645,623	6,157,262,207	6,492,428,676	6,622,556,490	35
31,619,626	48,093,105	99,015,081	160,746,413	192,945,783	210,728,479	220,523,727	225,152,008	36
-	348,097,229	222,871,178	147,821,972	199,141,946	202,961,007	190,589,965	202,094,301	37
-	5,311,003	4,389,008	3,991,126	5,083,513	5,310,568	5,032,428	5,173,615	38
7,346,381	10,315,853	16,811,287	17,715,099	24,554,938	25,105,188	20,091,874	16,827,603	39
-	-	-	30,358,034	43,476,959	46,670,482	37,491,302	31,586,468	40
1,356,879	1,622,351	1,869,643	2,063,498	2,127,405	2,156,549	2,192,017	-	41
870,801	1,140,793	1,335,454	1,547,992	1,619,542	1,644,786	1,688,918	-	42
40,516	50,307	56,607	63,840	67,861	68,888	69,820	-	43
37,971,374	57,362,734	112,976,543	122,701,259	128,890,836	130,658,883	135,901,082	-	44

relate to the fiscal years ended June 30 up to 1906, and from then on to the years ended Mar. 31. Agricultural, dairying, fisheries (1922-26), mineral, manufacturing, banking, insurance, loan and trust companies statistics relate to the calendar years and railway statistics to the years ended June 30, 1871-1916, and to the calendar years 1921 and 1924-28. Canal statistics are those of the navigation seasons. The telegraph statistics relate to the fiscal years for Government lines and to the calendar years for other lines.

ERRATA.

- P. 54. Right hand column, 2nd line should read "Aug. 24" in place of "Sept. 24".
- P. 70. Table 6, under "British Columbia" delete "Crowe, S. J., Vancouver" and add at foot of list "McRae, A.D., Vancouver".
- P. 212. Under "Lumber Exportation", tenth line, add "M" to lumber exports figure given as 1,488,517 ft. b. m.
- P. 323. Third line, 1929 figure should read 157.5, not 57.5.

CHAPTER I.—PHYSIOGRAPHY.

PART I.—GEOGRAPHICAL FEATURES.¹

Situation.—The Dominion of Canada comprises the whole northern half of the North American continent except the United States territory of Alaska, and the Coast of Labrador, a dependency of the Colony of Newfoundland. It also includes the Arctic archipelago between Davis strait and the 141st meridian.

The Dominion is bounded on the west by the Pacific ocean and Alaska; on the south by the 49th parallel, the Great Lakes, the St. Lawrence river and additional lines set out by the Ashburton Treaty, signed Aug. 9, 1842; and on the east by the Atlantic ocean, the gulf of St. Lawrence, the territory of the Coast of Labrador (as defined by the award of the Privy Council, Mar. 1, 1927), and Davis strait. As regards the far north, Canada includes all the lands in the area bounded on the east by a line passing midway between Greenland and Baffin, Devon and Ellesmere islands to the 60th meridian of longitude, following this longitude to the pole, and on the west by the 141st meridian of longitude, following this longitude to the pole. The southernmost point is Middle island in lake Erie, in north latitude $41^{\circ} 41'$, while from east to west the Dominion extends from about west longitude 57° —at the southernmost point of the boundary with the Coast of Labrador—to west longitude 141° , the boundary with Alaska. Canadian territory thus extends over 84° of longitude and 48° of latitude.

Area.—The area of the Dominion (as revised on the basis of the results of recent explorations in the north) is 3,690,043 square miles, a figure which may be compared with that of 3,743,529 square miles for the United States and its dependent territories, 3,776,700 the total area of Europe, 2,974,581 the total area of Australia, 4,277,170 the total area of China inclusive of dependencies, 3,275,510 the area of Brazil, 1,802,577 the area of India, 121,633 the area of the British Isles and 13,491,977 the area of the British Empire. By comparison with the last two figures, Canada is seen to be over 30 times as large as the British Isles and to comprise over 27 p.c. of the total area of the British Empire.

Political Subdivisions.—Canada is divided from east to west into the following provinces: the Maritime Provinces of Prince Edward Island, Nova Scotia and New Brunswick, all three comparatively small in area; Quebec, covering a strip south of the St. Lawrence and the whole territory north of the St. Lawrence and east of the Ottawa to Hudson strait, less the territory of the Coast of Labrador; Ontario, extending northward from the Great Lakes to Hudson bay; Manitoba, Saskatchewan and Alberta, the provinces of the interior continental plain, extending from 49° to 60° north latitude; and British Columbia, the province of the western mountain and Pacific Coast region, also extending from 49° to 60° . North of the 60th parallel of latitude, the country is divided into the Yukon Territory and the Northwest Territories, the latter area composed of the provisional districts of Mackenzie, Keewatin and Franklin.

Prince Edward Island.—This, the smallest province of the Dominion, lies at the south of the gulf of St. Lawrence and is separated from the mainland of the continent by Northumberland strait. It is about 120 miles in length and, with an average width of 20 miles, covers an area of 2,184 square miles, some 200 square

¹ Revised by F. H. Peters, Director of the Topographical Survey, Department of the Interior, Ottawa.
38298—1

miles more than the State of Delaware. The island is nearly cut into three parts by the deep indentation of Malpeque bay north of Summerside and again at Charlottetown by Hillsborough river, which nearly meets Tracadie bay on the north side. Its rich red soil and red sandstone formations are a distinct feature, and no point in the island attains a greater altitude than 306 feet above sea-level. A climate tempered by the surrounding waters of the gulf and yet free from the rigours of Atlantic storms, combined with a fertile soil and sheltered harbours, offers great inducement to the pursuits of agriculture and fishing. The province is noted for its relative predominance in the fox-farming industry, its lobster canneries, and its production of oats and potatoes.

Nova Scotia.—The province of Nova Scotia is 381 miles in length by from 50 to 105 miles in width, a long and rather narrow strip of land lying parallel to the Maine and New Brunswick coast and joined to the latter by the isthmus of Chignecto. It includes at the north the island of Cape Breton, which is separated from the mainland by the narrow strait of Canso. The total area of the province is 21,423 square miles, a little over 2,000 square miles less than the combined area of Belgium and Holland. Cape Breton island, south of the main entrance to the gulf of St. Lawrence and sheltering Prince Edward island from the Atlantic, is roughly 120 miles in length with an extreme breadth of 87 miles. Its area of 3,120 square miles encloses the salt-water lakes of Bras d'Or, connected with the sea at the north by two natural channels and at the south by the St. Peters ship canal. The ridge of low mountainous country running through the centre of the Nova Scotia mainland and of which the highest altitude is less than 1,500 feet, divides it roughly into two slopes, that facing the Atlantic being generally rocky, and open to the sweep of Atlantic storms, while the other, facing the bay of Fundy and Northumberland strait, consists for the most part of fertile plains and river valleys, and is noted for its general farming and fruit-farming districts which produce the famous Nova Scotian apples. The Atlantic coast is deeply indented with numerous excellent harbours many of which provided splendid homes and refuges for the old sail fishing fleets.

✓ *New Brunswick.*—With a total area of 27,985 square miles, New Brunswick may be compared in size to Scotland with its area of 30,405 square miles. The province is very compact and in shape nearly rectangular, with its depth not greatly exceeding its width. The conformation is in general undulating and of low relief. In the southeastern half of the province the ground elevation does not generally exceed 500 feet above sea-level except for a narrow strip in the south which produces the highlands bordering the bay of Fundy east of Saint John. In the northwestern half the ground elevation is in general from 500 to 1,000 feet above sea-level and reaches its greatest elevation of over 2,700 feet in Northumberland county northeast of Grand Falls. The St. John, rising in the sister province of Quebec and the bordering State of Maine, is a river with many distinctive beauties, while its length of nearly 400 miles makes it quite noteworthy as to size. In the northeastern half of the province there are very extensive areas of Crown lands still carrying valuable stands of merchantable timber. While New Brunswick is essentially a part of the mainland, the bay of Chaleur at the north, the gulf of St. Lawrence and Northumberland strait at the east, the bay of Fundy at the south and Passamaquoddy bay at the southwest, provide the province with a very extensive sea-coast. To the southwest is a group of islands belonging to the province, the most important of which are Grand Manan, Campobello, and the West Isles. New Brunswick has

been called the best watered country in the world; numerous rivers provide access to extensive lumbering areas in its interior and to many of the most attractive hunting and fishing resorts in the Dominion.

Quebec.—Quebec might with considerable accuracy be included among the Maritime Provinces, for the gulf of St. Lawrence is really a part of the Atlantic, and altogether salt water washes the coasts of the province for a length of over 2,700 miles. Besides including a narrow strip of land between the St. Lawrence and the International and New Brunswick boundaries, Quebec extends northward from the St. Lawrence and Ottawa rivers to Labrador and Hudson strait, covering over 17° of latitude and an area of 594,434 square miles, about 38 p.c. of which lies south of the isotherm of 60° mean July temperature.¹ The combined areas of France, Germany and Spain are some 5,000 square miles less than the area of Quebec. The conformity of the surface of Quebec is in general that characteristic of the Precambrian rocks, being quite even in general but much diversified by minor hills and hollows. North of the St. Lawrence the land takes the form of a ridge, parallel to the river and rising from sea-level to the Height of Land at an elevation of from 1,000 to 3,000 feet and then descending gently again to the sea-level of Hudson bay to the northwest; but to the northeast the ridge carries its height to end abruptly in the high headlands of Labrador. South of the river the area is comprised of the St. Lawrence Lowlands between Montreal and Quebec which, rising to the east, produce the highest elevation in the province, of about 4,200 feet, in the Gaspé peninsula. With the exception of the treeless zone extending somewhat south of Ungava bay the whole of the province supports a valuable tree growth varying from the mixed forest in the southwest to the eastern and northern coniferous in the areas of higher latitude. Apart from its importance as the threshold of Canada and the gateway through which ocean vessels must pass on their way to the interior of the continent, Quebec is also noted for its natural resources. The extensive timber limits of its northern areas form the basis for the great pulp and paper industry of the present and the future. Its rivers, many of them as yet comparatively unknown, may be harnessed to supply over one-third of the electric power available in Canada. Its mineral deposits, particularly those of asbestos, have long been known for their quality and extent, while promising discoveries of copper and gold deposits have been made in Rouyn and the neighbouring townships in the western part of the province, and the fisheries of the St. Lawrence river and gulf are well known. Agriculturally, the climate and soil of the upper St. Lawrence River valley and the plains of the Eastern Townships are eminently adapted to general farming operations.

Ontario.—The province of Ontario is the section of the Dominion contained between the great international lakes and Hudson bay and between the western boundary of Quebec and the eastern limits of Manitoba. Its most southern point is in north latitude 41° 41', which is a little further south than the northern boundary of the State of California, and its most northern in north latitude 56° 48'. The total area comprised within its limits, of which about 82 p.c. lies south of the isotherm of 60° mean July temperature, is 412,582 square miles, of which its water area of 49,300 square miles forms the unusually large proportion of nearly 12 p.c. The province is over 17,000 square miles greater in area than are France and Germany together, and when compared with the States to the south, Ontario is found to be almost equal in extent to the combined areas of the six New England States, together with New

¹ The isotherm of 60° F. mean July temperature is generally considered as the northern limit for the economic production of cereals.

York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Michigan and Wisconsin. Excepting in the southwestern part, the surface conformity of Ontario is influenced by the characteristics of the Precambrian rocks. In northern Ontario a large area with elevations of 1,000 feet or over adjoins the north shore of the Great Lakes and going north a short distance over the Height of Land the slope descends very gently to Hudson bay, which has a wide marginal strip less than 500 feet above sea-level. The highest point in Ontario is 2,120 feet, on the promontory at the northeastern corner of lake Superior. The whole province supports a valuable covering of trees varying from south to north, from the mixed forest to the eastern and northern coniferous. Many varieties of climate and soil are encountered, from the distinctively southern conditions found along the shores of lake Erie to the very different ones of Hudson and James bays. Ontario, of all the provinces of Canada, is the centre of the country's manufacturing life, owing to its abundant water-power resources and its proximity to the coal fields of Pennsylvania, but the many resources of its rural districts are not on this account neglected. Mining is a thriving industry in the Sudbury, Cobalt and Porcupine districts, the nickel coming from the Sudbury field amounting to 90 p.c. of the world's production, while most of the gold mined in Canada is found in the province. Fruit farming in the Niagara district and general farming throughout the entire southern part of the province are carried on extensively under unusually favourable conditions, while timber, pulp and fur are among the most important products of more northern parts.

✓ *Manitoba.*—Manitoba, the most easterly of the Prairie Provinces, and also the oldest of them in point of settlement, includes the area between Ontario on the east and Saskatchewan on the west. Its southerly limit is the International Boundary, while its northerly boundary is the 60th parallel of latitude and Hudson bay, where its coast of over 400 miles includes the harbour and port of Churchill. The total area of Manitoba, of which about 56 p.c. lies south of the isotherm of 60° mean July temperature, is 251,832 square miles—8,566 square miles greater than twice the total area of the British Isles. The conformity of the surface of Manitoba is quite even; commencing on the north with a strip bordering on Hudson bay perhaps 100 miles wide and less than 500 feet in elevation, the surface rises gradually toward the west and south. The bulk of the province has an elevation of between 500 and 1,000 feet, with the greatest height of 2,727 feet attained in Duck mountain, north-west of lake Dauphin. East and north of lake Winnipeg the Precambrian formation intrudes, producing a rock formation, but the remainder of the province is overlain by very fertile soil of great depth. The treeless prairie belt extends into the south-west corner of the province, but the greater portion of the developed area is in the grove belt characterized by groves of poplar interspersed with open prairie patches. To the north there are great areas of northern mixed forest, blending into the northern coniferous, which thin again to some treeless areas along the coast line farther north. The province has been regarded as typically agricultural, its southern lands being specially adapted to this form of industry. Its northern districts, however, are of importance in the production of timber and also contain large mineral deposits, particularly of copper-gold ore. About three-fifths of the area of this province is underlain by the Precambrian rocks which have been found so rich in minerals in northern Ontario and Quebec.

Saskatchewan.—The central prairie province lies between Manitoba and Alberta. It reaches to the International Boundary on the south and its northerly limit is the 60th parallel of latitude, which divides it from the Northwest Territories. The

area, of which about 89 p.c. lies south of the isotherm of 60° mean July temperature, is 251,700 square miles, but slightly less than that of Manitoba, and greater by 5,000 square miles than the combined areas of the British Isles and Norway. With the exception of a point of the Precambrian rocks jutting in from the east at the Height of Land well to the north and again covering a narrow strip along the northern boundary, the whole of the province is overlain by generally fertile soil of great depth. The greater part of the developed area in the south is comprised in the great treeless prairie belt, fringed to the north with a zone of poplar, interspersed with open prairie, which gradually changes into the northern mixed forest covering all the northerly parts. Apart from the southern prairies, which are extraordinarily smooth, the surface topography is generally of low relief and with a general rising slope towards the west. The bulk of the province has a general elevation of between 1,000 and 2,000 feet, with the maximum elevation of about 4,500 feet on the eastern point of the Cypress hills in the southwest corner. The climate is quite different from that of Eastern Canada, with less precipitation and perhaps slightly more severe features than are encountered in many other parts of the country, but is nevertheless most favourable to plant and animal growth. The northern districts, abundantly watered by lakes and rivers, are rich in timber resources and have prospective mineral wealth, while the southern plains include a large portion of the wonderful western wheat fields.

Alberta.—Lying between Saskatchewan on the east and the Rocky mountains and the 120th meridian on the west, and bounded on the north and south by the Northwest Territories and the United States respectively, is the province of Alberta. Its area is slightly greater than that of Saskatchewan or Manitoba, comprising a total of 255,285 square miles, of which about 90 p.c. lies south of the isotherm of 60° mean July temperature. The area of the province is over 8,600 square miles greater than the combined areas of the British Isles and Norway. Like Saskatchewan the southern part of the province is comprised in the dry treeless prairie belt, changing to the north into a zone of poplar interspersed with open prairie, which again gives way to the northern mixed forest covering the northerly parts. The Precambrian rocks just touch Alberta at its northeast corner, so that excepting the fringe of mountainous country on its western border the whole of the province is overlain by arable soil of great depth. Alberta has two marked features: (1) the great valley of the Peace river, which has already resulted in the extension of settlement farther north than in any other part of Canada, and (2) the wonderful grazing lands in the foothills district, which, rising sharply on the west, commences the ascent which continues to the very peaks of the Rocky mountains. The southern half of the province, rising toward the west, lies at a general elevation of from 2,000 to 4,000 feet; but in the northern half the slope descends until elevations of well under 1,000 feet are reached at lake Athabaska in the northeast corner. Mount Columbia, with an elevation of 12,294 feet, is the highest point in the province. Considerable coal and oil mining are carried on; lumbering is important in the more mountainous western parts and in the north, while some ranching is still pursued in the less populous sections. The climate of Alberta is a particularly pleasant one, cooler in summer than more eastern parts of the country and tempered in winter by the "Chinook" winds.

British Columbia.—British Columbia, the most westerly province of the Dominion, comprises an area of 355,855 square miles, slightly less than three times the area of the British Isles. The predominant feature of the province is the parallel ranges

of mountains which cover all of it except the northeast corner and produce a conformation characterized by high mountain ranges interspaced with valleys, many of which are extremely fertile, with climatic conditions well adapted to mixed agriculture or fruit growing. Apart from the smoother area in the northeast corner which extends up from the "Peace River Block" there is another notably large area of smoother terrain in the Stuart Lake district traversed by the Canadian National Railway running west from Fort George to Prince Rupert. The highest point in the province is Mount Fairweather (15,287 feet). The shore line of the Pacific is deeply indented with many inlets ideal for harbourage and with wonderful scenic aspects. With two ocean ports served by transcontinental railways British Columbia is well situated and equipped to carry on trade with the Orient, while its great stands of fir, spruce and cedar timber constitute a natural resource of great value. The province includes many islands of the Pacific, notably the Queen Charlotte group and Vancouver island; the latter with an area of about 13,500 square miles is noted for its temperate climate and abundant natural resources. The mines, timber, fisheries and agricultural resources of the province are remarkable for their quality and extent. The boundaries of the province extend from Alberta on the east to the Pacific ocean on the west and from the International Boundary northward to the Yukon.

Yukon and Northwest Territories.—The vast area of 1,516,758 square miles is included within the boundaries of Canada's northern subdivisions, the Yukon Territory and the three provisional districts of the Northwest Territories. This is over twelve times the area of the British Isles, nearly half the area of the United States, and more than the combined areas of the Argentine Republic and Chile in South America. The northern territories are as yet largely unexplored and apart from the main through water routes are still unmapped in any accurate way. These territories are known to include mighty rivers like the Mackenzie and the Yukon and great inland bodies of water such as Great Slave and Great Bear lakes; but with the present paucity of accurate knowledge the situation is that the potentialities of this great area are at present unknown. There have been many indications of mineral wealth in the country, which are being added to as definite exploration advances, and the future may well reproduce the great gold rush to the Yukon in 1897. Because a large portion lies within the Arctic circle the tendency has been to associate with the Northwest Territories thoughts of ice and snow, but as our knowledge is increased the argument steadily gains more weight that what have been regarded in the past as the great barren lands of the north are more appropriately described as our great northern prairies. The opening of the port of Churchill, making the Hudson Bay coast of the district of Keewatin readily approachable, adds considerably to the transportation facilities, which previously have been confined to a regular steamboat summer route down the Mackenzie river. In the future it is likely that travel and transport by air will have a great influence in the further development of these territories, while a net of established radio stations already brings a large area within the realm of quick communication. The production of minerals in the Yukon in 1930 was valued at over \$2,500,000, while the value of the production of furs in the Northwest Territories and Yukon in 1929-30 was nearly \$2,000,000.

Summary of Land and Water Area.—The total land and water area of the Dominion, together with its distribution by provinces and territories, is shown in Table 1.

1.—Land and Water Area of Canada, by Provinces and Territories, as in 1932.

Province or Territory.	Land. ¹	Water. ¹	Total. ¹	Per Cent of Total Area.
	sq. miles.	sq. miles.	sq. miles.	
Prince Edward Island.....	2,184	—	2,184	0.1
Nova Scotia.....	20,743	685	21,428	0.6
New Brunswick.....	27,710	275	27,985	0.8
Quebec.....	571,004	23,430	594,434	16.1
Ontario.....	363,282	49,300	412,582	11.2
Manitoba.....	224,777	27,055	251,832	6.8
Saskatchewan.....	237,975	13,725	251,700	6.8
Alberta.....	248,800	6,485	255,285	6.9
British Columbia.....	349,970	5,885	355,855	9.6
Yukon.....	205,346	1,730	207,076	5.6
Northwest Territories—				
Franklin.....	546,532	7,500	554,032	15.0
Keewatin.....	218,460	9,700	228,160	6.2
Mackenzie.....	493,225	34,265	527,490	14.3
Totals.....	3,510,008	180,935	3,690,943	100.0

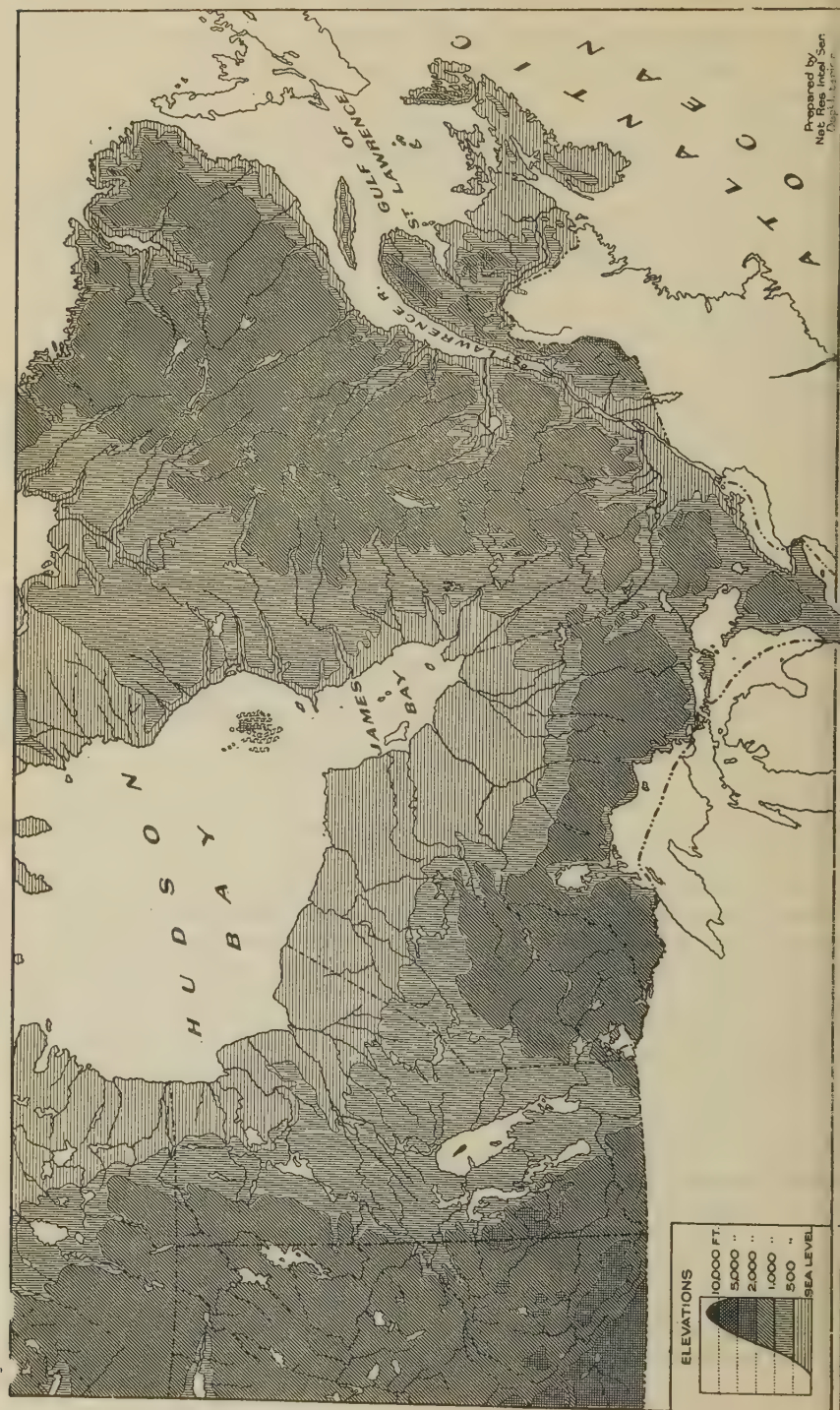
¹ Approximate.

The water area, as given above, is exclusive of Hudson bay, Ungava bay, the bay of Fundy, the gulf of St. Lawrence and all other tidal waters, excepting that portion of the river St. Lawrence which is between Pointe-des-Monts and the foot of lake St. Peter, in Quebec.

Section 1.—Orography.

The conformation of the present surface of the North American continent admits of its apportionment, in Canada, into several orographic divisions. The exposed surface of the old Precambrian continent forms one of the largest divisions and has been called the Canadian Shield, the Archæan Peneplain and in its southern portion, the Laurentian Highland. The mountainous country of the west constitutes the Cordilleras, while the mountains of eastern United States, in their continuation across the border, form the Appalachian Highland of Eastern Canada. The Great Plains, with various subdivisions, occupy the area between the mountainous area of the west and the great roughened surface of the Canadian Shield. The St. Lawrence Lowlands lie between the Laurentian and Appalachian Highlands. Within the borders of the Canadian Shield an area on the southern margin of Hudson bay has been referred to as the "clay belt". It occupies a part of the basin that during the glacial period was submerged and covered with a coating of clay which smoothed over its inequalities and concealed most of the underlying rocks. Since its emergence the surface has been but slightly altered by drainage channels cut across it.

Orographical maps of Eastern and Western Canada, showing elevations above sea-level, will be found on pp. 8 and 10 of this volume.

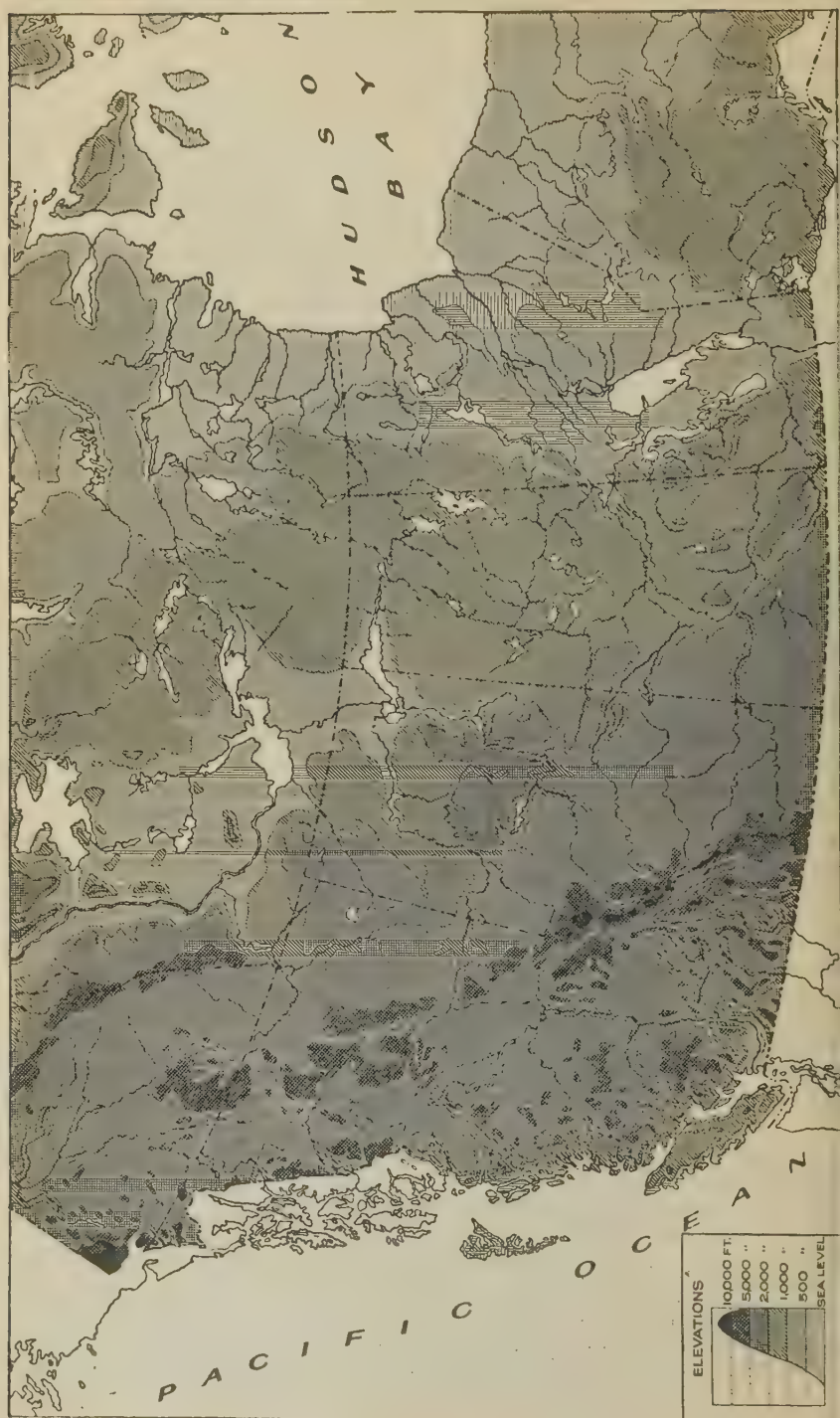


Canadian Shield.—The portion of the Precambrian continent whose exposed surface still forms a large part of Canada has an area of about two and a half million square miles. Its northern border crosses the Arctic archipelago and the eastern lies beyond Baffin island and Labrador and reaches the depressed area occupied by the St. Lawrence river, a short spur or point crossing this valley at the outlet of lake Ontario to join the Adirondack mountains in New York. The southern boundary runs from this spur west to Georgian bay, skirts the north shore of lake Huron and sweeps almost around the ancient depressed area occupied by lake Superior. The western edge, from the lake of the Woods and lake Winnipeg, bears northwest to the western end of lake Athabaska, and passes through the basins occupied by Great Slave and Great Bear lakes, reaching the Arctic ocean east of the Mackenzie River delta. In detail, the surface features of the Canadian Shield are irregular, but, viewed broadly, it has the conformation of a great plain, depressed toward the centre and in the north, and slightly elevated along the eastern and southern borders where it presents a rather steep outward slope. The general elevation in the eastern portion is under 2,000 feet, and over the larger part of the plain is about 1,000 feet. The highest portion is along the northeastern margin, where it presents a steep face to the sea, rising to a maximum altitude of about 6,000 feet.

Appalachian Region.—The continuation of the Green mountains of Vermont into Canada may be traced in the Notre Dame mountains, which approach the St. Lawrence northeast of Quebec and, continuing with more easterly trend, form the highland of the Gaspé peninsula. Over a large part of the region, these hills hardly attain the dignity of mountains, but peaks rising more than 3,500 feet above the nearby coast are found in the Gaspé peninsula. The continuation of the White mountains of New Hampshire is found in the highlands of Maine and New Brunswick, the continuity being shown quite plainly by the rock-folding and other evidences of the great earth movements which caused the topography. An additional ridge apparently forms the present province of Nova Scotia, and although the highlands of that province rise only to elevations of less than 1,500 feet, the rock structure indicates that it was a mountainous country at no very remote geological period.

St. Lawrence Lowlands.—The southern interior of the continent consists of a plain of low relief, bordered on the east by the Appalachian mountains, on the west by the Cordilleran Mountain systems, and on the north by the Laurentian plateau. This plain, in its Canadian portion, is known as the St. Lawrence Lowlands, and extends from a short distance below Quebec city to lake Huron, south of Georgian bay, with a length of 600 miles and an area of 35,000 square miles. To the northeast it becomes reduced in width, and in the vicinity of Quebec is represented by a narrow plateau or shelf on each side of the St. Lawrence river.

Great Plains.—A great area, including diverse features, lies to the east of the Cordilleras. The portion that is included under the term Great Plains extends from the southwestern edge of the ancient surface, forming the Canadian Shield, to the eastern edge of the mountainous region of the Cordilleras. This area is characteristically different from other parts of Canada in that any exposure of surface rock is rare and generally it is overlain by great depths of soil, through which the streams have cut themselves down into deep coulées and the rivers into deep wide valleys. Lakes of any considerable extent are infrequent and usually quite shallow; in the dry prairie section there are many places where the absorption



from the broad and shallow bodies of water is so great that they have little or no outflowage and consequently the concentration of mineral salts in the water makes it unfit for domestic use. The terrain is generally smooth or gently undulating and with elevations of from 600 to 3,500 feet has a general upward slope toward the south and west where, rising more sharply in the foothills, the real ascent to the high mountains commences.

Cordilleran Region.—The western part of the American continent is more or less mountainous. The Andean chain, which extends throughout the length of South America and broadens out in the United States has, in Canada, an average width of about 475 miles. This region, covering about 530,000 square miles, is the most elevated in the Dominion, many of the summits reaching heights of 10,000 feet, with occasional peaks over 13,000 feet above sea-level. The mountainous tract forming the Cordilleras can be divided broadly into three parallel bands; a series of plateaus and mountains, comprised in the Columbia, Interior, Cassiar, and Yukon systems, forming the central part, referred to as the Central Belt; another series of parallel ridges east of the central plateaus, formed of fault rocks and folds and including the Rocky and Arctic systems, known as the Eastern Belt; and a third division between the plateau country and the Pacific, composed of the Pacific and Insular systems, called the Western Belt.

Following is a list of the principal named Canadian Cordilleran peaks exceeding 11,000 feet in elevation:—

Province and Mountain Peak.	Elevation.	N. Lat.		W. Long.		Range.
	ft.	°	'	°	'	
Alberta—						
Alberta.....	11,874	52	14	117	36	Rocky Mts.
Alexandra ¹	11,214	51	59	117	12	"
Assiniboine ¹	11,870	50	56	115	42	"
Athabaska.....	11,452	52	07	117	11	"
Coleman.....	11,000	52	06	116	55	"
Columbia ¹	12,294	52	09	117	27	"
Deltaform ¹	11,235	51	18	116	15	"
Diadem.....	11,060	52	19	117	00	"
Forbes.....	11,902	51	48	116	56	"
Fryatt.....	11,026	52	33	117	54	"
Hector.....	11,135	51	34	116	15	"
Hungabee ¹	11,457	51	20	116	17	"
Joffre ¹	11,316	50	32	115	12	"
King Edward ¹	11,400	52	10	117	30	"
Kitchener.....	11,500	52	13	117	19	"
Lyell.....	11,495	51	58	117	06	"
Lefroy ¹	11,230	51	22	116	17	"
Lurette ¹	11,150	50	52	115	39	"
Sir Douglas ¹	11,174	50	43	115	20	"
Snow Dome ¹	11,340	52	11	117	19	"
Stutfield.....	11,320	52	15	117	29	"
Temple.....	11,636	51	21	116	15	"
The Twins.....	11,675	52	13	117	12	"
	12,085					
Victoria ¹	11,265	51	23	116	18	"
Wilson.....	11,000	51	58	116	45	"
Woolley.....	11,170	52	18	117	25	"

¹ These peaks are on the interprovincial boundary between Alberta and British Columbia.

Province and Mountain Peak.	Elevation.	N. Lat.		W. Long.		Range.
	ft.	°	'	°	'	
British Columbia—						
Bush.....	11,000	54	00	120	15	Rocky Mts.
Bryce.....	11,507	52	03	117	20	"
Clemenceau.....	12,001	—	—	—	—	"
Chown.....	11,500	53	26	119	26	"
Delphine.....	11,076	50	28	116	25	Selkirk Mts.
Fairweather ¹	15,287	58	54	137	31	St. Elias Mts.
Farnham.....	11,342	50	29	116	27	Selkirk Mts.
Goodsir.....	11,676	51	12	116	24	Rocky Mts.
Hasler.....	11,113	51	09	117	25	Selkirk Mts.
Huber.....	11,051	51	22	116	18	"
Jumbo.....	11,217	50	24	116	32	Rocky Mts.
King George.....	11,226	50	36	115	24	"
Resplendent.....	11,240	53	05	119	07	"
Robson.....	12,972	53	07	119	08	"
Root ²	12,860	58	59	137	30	St. Elias Mts.
Selwyn.....	11,013	51	09	117	24	Selkirk Mts.
Sir Alexander.....	11,000	54	00	120	15	Rocky Mts.
Sir Sandford.....	11,590	51	39	117	52	Selkirk Mts.
The Helmet.....	11,160	51	11	116	20	Rocky Mts.
Whitehorn.....	11,101	53	08	119	16	"
Yukon²—						
Alverstone.....	14,500	60	21	139	02	St. Elias Mts.
Augusta.....	14,070	60	18	140	28	"
Baird.....	11,375	60	19	140	31	"
Badham.....	12,625	60	38	139	47	"
Cook.....	13,760	60	10	139	59	"
Craig.....	13,250	—	—	—	—	"
Hubbard.....	14,950	61	16	140	53	"
Jeannette.....	11,700	60	20	140	43	"
King.....	17,130	60	35	140	39	"
Logan.....	19,850	60	35	140	21	"
Lucania.....	17,150	61	01	140	28	"
Malaspina.....	12,150	60	19	140	34	"
McArthur.....	14,400	60	36	140	13	"
Newton.....	13,811	60	19	140	52	"
St. Elias.....	18,008	60	18	140	57	"
Steele.....	16,644	61	06	140	19	"
Strickland.....	13,818	61	14	140	45	"
Vancouver.....	15,696	60	21	139	42	"
Walsh.....	14,498	61	00	140	00	"
Wood.....	15,885	61	14	140	31	"

¹ These peaks are on the international boundary between British Columbia and Alaska.

² These peaks are on or near the Yukon-Alaska boundary.

NOTE.—The highest mountain east of the Rockies, with the exception of the Torngats in Labrador, peaks of which exceed 6,000 feet, is Tabletop mountain (recently re-named Mount Jacques Cartier by the Geographic Board of Canada) in N. lat. 48° 59', W. long. 65° 56', Gaspé district, Quebec, the summit of which is 4,350 feet above sea-level.

Section 2.—Rivers and Lakes.

General.—The waterways of Canada constitute not only one of its most remarkable geographic features, but one of the most vital elements of its national existence. The water area of 180,035 square miles is unusually large, constituting almost 5 p.c. of the total area of the country, whereas the water area of the United States forms but slightly more than 1½ p.c. of its area. The Great Lakes, with the St. Lawrence river, form the most important system of waterways on the continent and one of the most notable fresh-water transportation routes in the world. Their value in facilitating the cheap and speedy shipment of grain from the Prairie Provinces cannot be overestimated. These lakes never freeze over, but usually most of their harbours are closed by ice about the middle of December and remain frozen over until the end of March or the beginning of April.

Drainage Basins.—The great drainage basins of Canada are the Atlantic (524,900 square miles), the Hudson Bay (1,486,000 square miles), the Pacific (387,300 square miles), the Arctic (1,290,000 square miles) and the Gulf of Mexico (12,365 square miles). Table 2 indicates the drainage areas of the more important rivers.

2.—Drainage Basins of Canada.

NOTE.—Owing to overlapping and to the fact that minor basins are omitted, the totals of each drainage basin do not represent an addition of the drainage areas as given. Tributaries and sub-tributaries are indicated by indentation of the names. The Gulf of Mexico basin is that part of the southern area of the Prairie Provinces drained by the Missouri and Mississippi rivers and their tributaries.

Drainage Basin.	Area Drained.	Drainage Basin.	Area Drained.
	sq. miles.		sq. miles.
Atlantic Basin.		Hudson Bay Basin—concluded.	
Miramichi.....	5,400	Kazan.....	32,700
St. John.....	21,500	Dubawnt.....	58,500
St. Lawrence.....	309,500		
Saguenay.....	35,900	Total.....	1,486,000
St. Maurice.....	16,200	Pacific Basin.	
French.....	8,000	Yukon.....	145,800
Nipigon.....	9,000	Porcupine.....	24,600
Ottawa.....	56,700	Stewart.....	21,900
du Lièvre.....	3,500	Felly.....	21,300
Gatineau.....	9,100	Lewes.....	35,100
Total.....	524,900	White.....	15,000
Hudson Bay Basin.		Alsek.....	11,200
Koksoak.....	62,400	Taku.....	7,600
George.....	20,000	Stikine.....	20,300
Big.....	26,300	Nass.....	7,400
Eastmain.....	25,500	Skeena.....	19,300
Rupert.....	15,700	Fraser.....	91,700
Broadback.....	9,800	Thompson.....	21,800
Nottaway.....	29,800	Nechako.....	15,700
Moose.....	42,100	Blackwater.....	5,600
Abitibi.....	11,300	Quesnel.....	4,500
Missinaibi.....	10,600	Chilcotin.....	7,500
Albany.....	59,800	Columbia.....	39,300
Kenogami.....	20,700	Kootenay.....	15,500
Attawapiskat.....	18,700	Okanagan.....	6,000
Winisk.....	24,100	Kettle.....	3,160
Severn.....	38,600	Pend d'Oreille.....	1,190
Hayes.....	28,000	Total.....	387,300
Nelson.....	370,800	Arctic Basin.	
Winnipeg.....	44,000	Back.....	47,500
English.....	20,600	Coppermine.....	29,100
Red.....	63,400	Mackenzie.....	682,000
Assiniboine.....	52,600	Liard.....	100,700
Saskatchewan.....	158,800	Hay.....	25,700
North Saskatchewan.....	54,700	Peace.....	117,100
South Saskatchewan.....	65,500	Athabaska.....	58,900
Red Deer.....	18,300	Total.....	1,290,000
Bow.....	11,100	Gulf of Mexico Basin.....	
Belly.....	8,900		12,365
Churchill.....	115,500		

The St. Lawrence River System.—Most important of the lakes and rivers of Canada is the chain of the Great Lakes with their connecting rivers, the St. Lawrence river and its tributaries. This chain is called the St. Lawrence River system. The Great Lakes, separating the province of Ontario from the United States and connected by a series of canals with the St. Lawrence river, allow vessels drawing not over 14 feet of water to proceed from the Atlantic ocean to the interior of the Dominion as far as Fort William and Port Arthur, twin cities situated on Lake Superior, practically half way across the continent.

Other River Systems.—Apart from the St. Lawrence, the great waterway of the eastern half of the Dominion, other systems also merit some attention. The Saskatchewan river, for example, flowing eastward from the Rocky mountains to lake Winnipeg and thence northward by the Nelson river into Hudson bay, drains a great part of the plains of the western provinces. In the north, the Mackenzie river, with its tributaries the Slave, Liard, Athabaska and Peace rivers, follows the northerly slope of the Great Plain and empties into the Arctic ocean, its waters having traversed in all a distance of 2,514 miles. The Yukon river, after draining a

great part of the Yukon Territory, flows northward through Alaska into the Bering sea after a course of 1,765 miles. The Fraser, Columbia, Skeena and Stikine rivers flow into the Pacific ocean after draining the western slopes of the mountains of British Columbia. Table 3 gives the lengths of the principal rivers with their tributaries, classified according to the course taken by their waters.

3.—Lengths of Principal Rivers and Tributaries in Canada.

NOTE.—In this table the tributaries and sub-tributaries are indicated by indentation of the names. Thus the Ottawa and other rivers are shown as tributary to the St. Lawrence, and the Gatineau and other rivers as tributary to the Ottawa.

River.	Miles.	River.	Miles.
Flowing into the Atlantic Ocean.		Flowing into Hudson Bay—concluded.	
Natashkwan (to Labrador boundary).....	160	Attawapiskat.....	445
Romaine.....	270	Albany (to head of Cat river).....	610
Moisie.....	210	Moose (to head of Mattagami).....	340
Marguerite.....	130	Mattagami.....	275
St. John.....	399	Abitibi.....	34
Miramichi.....	135	Missinabi.....	265
St. Lawrence (to head of St. Louis, Minn.)..	1,900	Harricanaw.....	250
Manikouagan.....	310	Nottaway (to head of Waswanipi).....	400
Outarde.....	270	Waswanipi.....	190
Bersimis.....	240	Rupert.....	380
Saguenay (to head of Peribonka).....	405	Eastmain.....	375
Peribonka.....	280	Big.....	52
Mistassini.....	185	Great Whale.....	368
Ashuapmucuan.....	165	Leaf.....	295
Chaudière.....	120	Koksoak (to head of Kaniapiskau).....	532
St. Maurice.....	325	Kaniapiskau.....	44
Mattawin.....	100	George.....	364
St. Francis.....	165		
Richelieu.....	210	Flowing into the Pacific Ocean.	
Ottawa.....	696	Columbia (total).....	1,154
North.....	70	Columbia (in Canada).....	464
Rouge.....	115	Kootenay.....	400
North Nation.....	60	Fraser.....	694
du Lièvre.....	205	Thompson (to head of North Thompson).....	277
Gatineau.....	240	North Thompson.....	183
Coulonge.....	135	South Thompson.....	123
Dumoine.....	80	Chilcotin.....	14
South Nation.....	90	Blackwater.....	14
Mississippi.....	105	Nechako.....	25
Madawaska.....	130	Stuart.....	22
Petawawa.....	95	Porcupine.....	52
Moir.....	60	Skeena.....	33
Trent.....	150	Nass.....	20
Grand.....	165	Stikine.....	35
Thames.....	163	Aleek.....	20
French (to head of Sturgeon).....	180	Yukon (mouth to head of Nisutlin).....	1,700
Sturgeon.....	110	Yukon (int. boundary to head of Nisutlin).....	68
Spanish.....	153	Stewart.....	32
Mississagi.....	140	White.....	18
Thessalon.....	40	Pelly.....	5
Nipigon (to head of Ombabika).....	130	Macmillan.....	26
		Lewes.....	36
Flowing into Hudson Bay.		Flowing into the Arctic Ocean.	
Hayes.....	300	Anderson.....	44
Nelson (to lake Winnipeg).....	400	Horton.....	2
Nelson (to head of Bow).....	1,600	Mackenzie (to head of Finlay).....	2,540
Red (to head of lake Traverse).....	355	Peel.....	2
Red (to head of Shesenne).....	545	Arctic Red.....	2
Assiniboine.....	590	Twitya.....	2
Souris.....	450	Liard.....	5
Qu'Appelle.....	270	Fort Nelson.....	2
Winnipeg (to head of Firesteel).....	475	South Nahanni.....	2
English.....	330	Petitot.....	2
Saskatchewan (to head of Bow).....	1,205	Athabaska.....	7
North Saskatchewan.....	760	Pembina.....	2
South Saskatchewan (to head of Bow).....	865	Slave.....	2
Bow.....	315	Hay.....	3
Belly.....	181	Peace (to head of Finlay).....	1,000
Red Deer.....	385	Finlay.....	2
Churchill.....	1,000	Parsnip.....	1
Beaver.....	305	Smoky.....	2
Kazan.....	455	Little Smoky.....	1
Dubawnt.....	580	Coppermine.....	5
Severn.....	420	Back.....	6
Winisk.....	295		

The Great Lakes.—Table 4 shows the length, breadth, area, elevation above sea-level and maximum depth of each of the Great Lakes. Particularly notable are the depth of lake Superior and the shallowness of lake St. Clair and lake Erie.

4.—Areas, Elevations and Depths of the Great Lakes.

Lake.	Length.	Breadth.	Maximum Depth.	Area.	Elevation above Sea-level.
	miles.	miles.	feet.	square miles.	feet.
Superior.....	383	160	1,180	31,810	602·29
Michigan.....	320	118	870	22,400	581·13
Huron.....	247	101	750	23,010	581·13
St. Clair.....	26	24	23	460	575·62
Erie.....	241	57	210	9,940	572·52
Ontario.	180	53	738	7,540	246·17

Lake Superior, with its area of 31,810 square miles, is the largest body of fresh water in the world. As the International Boundary between Canada and the United States passes through the centre of lakes Superior, Huron, Erie, St. Clair and Ontario, only a part of the areas of these lakes given in the above statement is Canadian. The whole of lake Michigan is within United States territory. From the western end of lake Superior to the mouth of the St. Lawrence there is, with the aid of the canal system, a continuous navigable waterway. The total length of the St. Lawrence waterway, from the head of the St. Louis river in Minnesota to Pointe-des-Monts at the entrance of the gulf of St. Lawrence, is 1,900 miles. The tributaries of the St. Lawrence, several of which have themselves important tributaries, include the Ottawa river, 696 miles long, the St. Maurice river, 325 miles long, and the Saguenay (to head of Peribonka), 405 miles long.

Other Inland Waters.—In addition to the Great Lakes, there are large bodies of inland water in other parts of Canada. Of these only the following principal lakes, with their respective areas, need be mentioned: in Quebec, lake Mistassini (840 square miles); in Ontario, lake Nipigon (1,590 square miles); in Manitoba, lake Winnipeg (9,398 square miles), lake Winnipegosis (2,086 square miles) and lake Manitoba (1,817 square miles); in Manitoba and Saskatchewan, Reindeer lake (1,765 square miles); in Saskatchewan and Alberta, lake Athabaska (2,762 square miles). All these are within the boundaries of the provinces as at present constituted and are exclusive of lakes situated in the Northwest Territories, the largest of which are Great Bear lake (12,200 square miles) and Great Slave lake (11,170 square miles), in the district of Mackenzie.

Table 5 gives a list of the principal lakes of Canada by provinces, with the area of each in square miles. The table corresponds with the delimitation of the provinces as altered by the Boundary Extension Acts, 1912 (2 Geo. V, cc. 32, 40 and 45).

5.—Areas of Principal Canadian Lakes, by Provinces.

Province and Lake.	Area.	Province and Lake.	Area.
	square miles.		square miles.
Nova Scotia—		Ontario—concluded.	
Bras d'Or.....	360	Superior (total, 31,810) part.....	11,200
New Brunswick—		Timagami.....	9
Grand.....	65	Timiskaming (total, 110) part.....	5
Quebec—		Trout, English river.....	150
Abitibi (total, 330) part.....	35	Trout, Severn river.....	210
Albanel.....	145	Wanapitei.....	40
Apiskigamish.....	392	Woods, lake of the (total, 1,346) part.....	1,127
Burnt.....	56	Manitoba—	
Champlain (total, 360) part.....	18	Athapapuskow.....	104
Chibougamau.....	138	Atikameg.....	110
Clearwater.....	410	Beaverhill.....	70
Evans.....	180	Cedar.....	537
Expansion.....	59	Cormorant.....	134
Gull.....	125	Cross (Nelson river).....	274
Great Long.....	110	Dauphin.....	200
Indian House.....	125	Dog.....	64
Kakabonga.....	66	Etawney.....	545
Kaniapiskau.....	375	Gods.....	319
Kipawa.....	95	Goose.....	53
Lower Seal.....	130	Grenville.....	267
Manikuagan.....	110	Island.....	550
Manuan.....	100	Kipahigan (total, 59) part.....	29
Mattagami.....	88	Kiskittogisu.....	60
Memphremagog (total, 37) part.....	27	Kiskitto.....	65
Minto.....	485	Kississing.....	141
Mistassini.....	840	Manitoba.....	1,817
Nichikun.....	150	Molson.....	154
Olga.....	50	Moose.....	525
Payne.....	300	Namew (total, 81) part.....	8
Pipmakan.....	90	North Indian.....	150
Pletipi.....	138	Nueltin (total, 336) part.....	76
Quinze, Lac des.....	55	Oxford.....	155
St. Francis, river St. Lawrence (total, 85) part.....	63	Pelican, west of Winnipegosis.....	80
St. John.....	375	Playgreen.....	257
St. Louis.....	57	Reed.....	78
St. Peter.....	130	Red Deer, west of lake Winnipegosis.....	80
Timiskaming (total, 110) part.....	55	Reindeer (total, 1,765) part.....	245
Two Mountains.....	63	St. Martin.....	127
Upper Seal.....	260	Setting.....	65
Wakonichi.....	44	Shoal (total, 114) part.....	6
Waswanipi.....	75	Sipiwesk.....	201
Ontario—		Sisipuk (total, 99) part.....	78
Abitibi (total, 330) part.....	295	Southern Indian.....	1,200
Dog.....	61	Stevenson.....	75
Eagle.....	137	Swan.....	100
Erie (total, 9,940) part.....	5,094	Talbot.....	72
Huron, including Georgian Bay (total, 23,010) part.....	13,675	Todatara (total, 241) part.....	150
Kagaki.....	49	Walker.....	60
Kesagami.....	90	Waterhen.....	90
La Croix (total, 51) part.....	25	Wekusko.....	60
Long.....	75	William.....	44
Manitou, Kenora.....	60	Winnipeg.....	9,390
Mille Lacs, Lac des.....	102	Winnipegosis.....	2,080
Muskoka.....	45	Woods, lake of the (total, 1,346) part.....	50
Nipigon.....	1,590	Saskatchewan—	
Nipissing.....	330	Amisk.....	10
Ontario (total, 7,540) part.....	3,727	Athabaska (total, 2,762) part.....	1,700
Rainy (total, 324) part.....	260	Candle.....	3
Red.....	69	Canoe.....	6
Rice.....	43	Churchill.....	21
St. Clair (total, 460) part.....	270	Cold (total, 136) part.....	3
St. Francis, river St. Lawrence (total, 85) part.....	20	Cree.....	35
St. Joseph.....	187	Cumberland.....	9
Sandy.....	270	Doré.....	20
Seul.....	416	Île-à-la-Croise.....	18
Shoal (total, 114) part.....	108	Johnstone.....	12
Simcoe.....	280	Kipahigan (total, 59) part.....	3
Stout, Berens river.....	50	Last Mountain.....	8
Sturgeon, English river.....	106	Little Quill.....	7
		Loche, Lac la.....	4
		Manitou.....	4
		Montreal.....	16
		Namew (total, 81) part.....	7

5.—Areas of Principal Canadian Lakes, by Provinces—concluded.

Province and Lake.	Area.	Province and Lake	Area
	square miles		square miles.
skatchewan—concluded.		British Columbia—concluded.	
Nemiseben.....	63	Tacna.....	135
Peter Pond.....	302	Tagish (total, 139) part.....	91
Plonge, Lac la.....	64	Teslin (total, 246) part.....	123
Primrose (total, 181) part.....	173	Upper Arrow.....	120
Quill.....	236		
Reindeer (total, 1,765) part.....	1,520	Northwest Territories—	
Ronge, Lac la.....	450	Aberdeen.....	475
Sisipuk (total, 99) part.....	26	Artillery.....	207
Smoothstone.....	94	Aylmer.....	340
Wollaston.....	768	Baker.....	975
		Clinton-Colden.....	253
berta—		Dubawnt.....	1,600
Athabaska (total, 2,762) part.....	1,062	Franklin.....	175
Beaverhills.....	80	Garry.....	980
Biche, Lac la.....	94	Gras, Lac de.....	345
Buffalo.....	56	Great Bear.....	12,200
Calline.....	55	Great Slave.....	11,170
Claire.....	545	Kaministiquia.....	360
Cold (total, 136) part.....	100	Macdougall.....	265
Cresser Slave.....	461	Magase.....	540
Manawiki.....	64	Martre, Lac la.....	1,335
Peerless.....	75	Mackay.....	250
Primrose (total, 181) part.....	8	Nueltin (total, 336) part.....	260
Sullivan (variable).....	62	Nutarawit.....	350
Utikuma.....	85	Pelly.....	331
		Schultz.....	110
British Columbia—		Tholintoa.....	160
Adams.....	62	Todatara (total, 241) part.....	85
Atlin (total, 292) part.....	280	Yathkyed.....	860
Babine.....	173		
Chilko.....	85	Yukon—	
François.....	87	Aishihik.....	107
Harrison.....	89	Atlin (total, 292) part.....	12
Kootenay.....	220	Kluane.....	184
Lower Arrow.....	80	Kusawa.....	56
Okanagan.....	135	Laberge.....	87
Pwikeno.....	98	Marsh.....	32
Quenel.....	100	Tagish (total, 139) part.....	48
Shuswap.....	124	Teslin (total, 246) part.....	123
Stuart.....	140		

Section 3.—Islands.

The islands of Canada are among its most remarkable geographic features. They include the numerous unsurveyed and little-known areas of the Arctic regions, the fringe of both large and small islands off the Pacific coast, those of the Maritime provinces and Quebec in the Atlantic ocean and the gulf of St. Lawrence, together with the islands of the Great Lakes and other inland waters. Of the Arctic islands, little need be said. They are known to be of vast extent, Baffin, Victoria and Ellesmere, the three largest, being approximately 199,610, 80,450 and 78,400 square miles in area respectively, but Banks, Devon, Southampton, Somerset, Prince of Wales, Melville and Axel Heiberg are also of considerable size. Their economic possibilities, beyond scattered deposits of coal and other minerals, have not been established. The Pacific Coast islands, with the exception of Vancouver island and the Queen Charlotte group, are small and dot the western coast of British Columbia from Dixon entrance to the southern boundary of the province. Vancouver island is 285 miles long and from 40 to 80 miles broad, covering an area of about 13,500 square miles, the mountain range which forms its backbone rising again to form the Queen Charlotte islands farther north. These islands figure largely in the mining, lumbering and fishing industries of the West.

On the eastern coast of the Dominion are the island province of Prince Edward Island, the island of Cape Breton (an integral part of Nova Scotia), Anticosti and the

Magdalen group, included in the province of Quebec, and the islands of Grand Manan and Campobello, part of the province of New Brunswick, in the bay of Fundy. Prince Edward Island is 2,184 square miles in area, Cape Breton 3, and Anticosti of about the same extent. Fishing activities in these eastern islands are important, while agriculture in Prince Edward Island and mining in Cape Breton are among the chief occupations of the inhabitants.

Manitoulin island in lake Huron and the Thousand Islands group in the Lawrence river, at its outlet from lake Ontario, are the more important islands in the inland waters.

PART II.—GEOLOGY.

Section 1.—Geology of Canada.¹

The outstanding feature of Canadian geology is the vast area underlain by formations of Precambrian age. These occupy nearly the whole of Canada east of a line joining lake Winnipeg and Great Bear lake with the exception of the Maritime Provinces, the extreme southern parts of Ontario and Quebec, and a part of Ontario adjacent to the southern coast of Hudson bay. The Precambrian rocks include the oldest known geological formations and are the foundation of a part of the North American continent that has existed as a land mass for numerous long periods throughout all that portion of geological time that has been recorded in sedimentary formations exposed on the face of the earth.

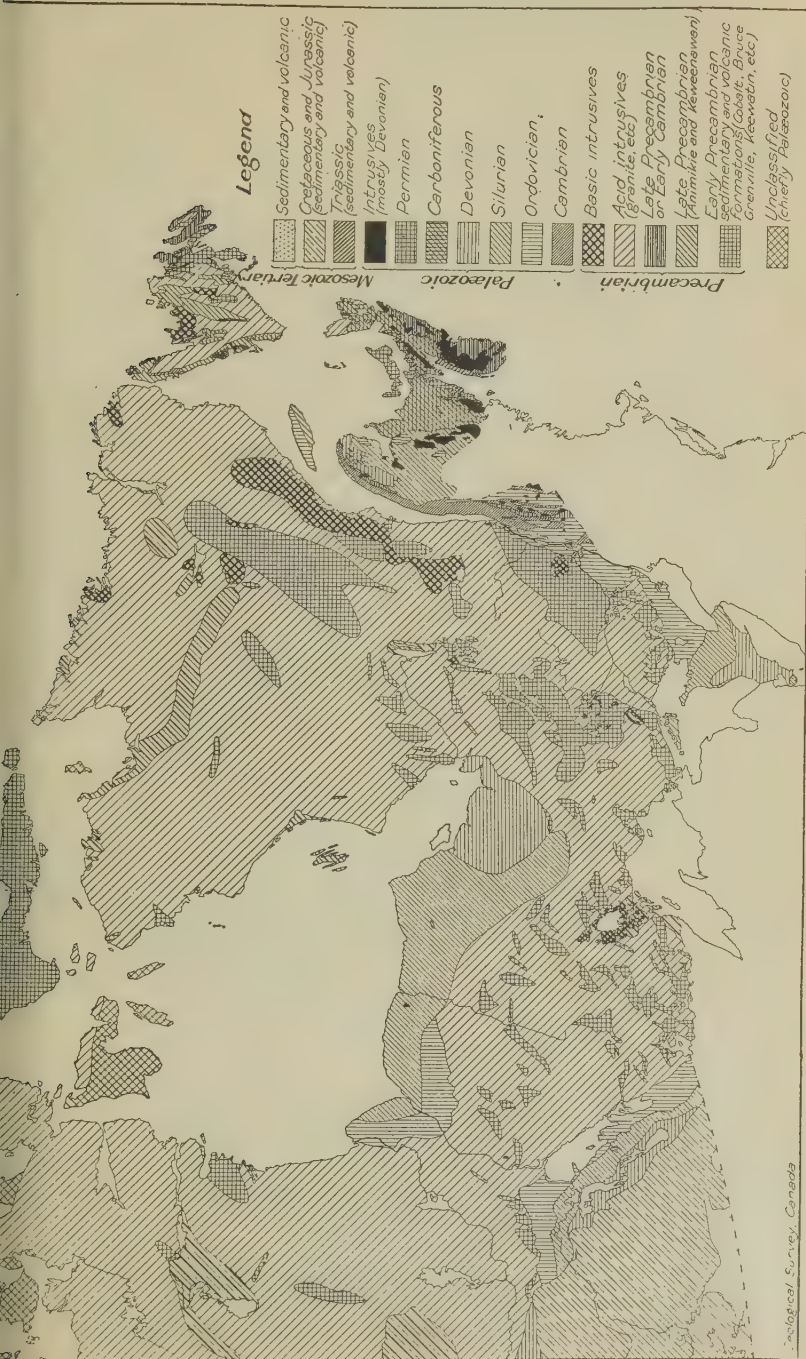
Another prominent feature is the wide extent of nearly flat-lying sedimentary formations of Palæozoic, Mesozoic and Cenozoic age that almost wholly surround the Precambrian area. They form a mantle spread out on a sloping shelf of Precambrian rocks and for a time some of them probably extended over a great part of the Precambrian area. In few places was there even fairly continuous sedimentation throughout the three great geological periods, and the succession of strata in most places broken and incomplete.

Towards the Atlantic and Pacific coasts, the flat-lying sedimentary series give way to great assemblages of folded sedimentary and volcanic rocks pierced by granitic bodies and forming the Appalachian system of mountains on the east and the great Cordillera on the west. In the folding, rocks of Precambrian age were brought to the surface. In the extreme north an analogous mountain range stretches from Greenland westward into Ellesmere island.

Subsection 1.—Topography.

The topography of Canada is the outward expression of geological processes that have been in operation at the surface of the earth and at depth throughout geological time. It is the imprint made by the deposition of sediments, the folding of strata, the intrusion of igneous masses, the ejection of volcanic material, and the dissolving, eroding and transporting of rock matter by surface agencies. The rising and sinking of broad continental areas, the forming of great mountain ranges and their gradual levelling, are all involved. The present land form is but a momentary expression of a continent that is undergoing eternal change.

¹ By Wyatt Malcolm, M.A., Geological Survey, Ottawa.



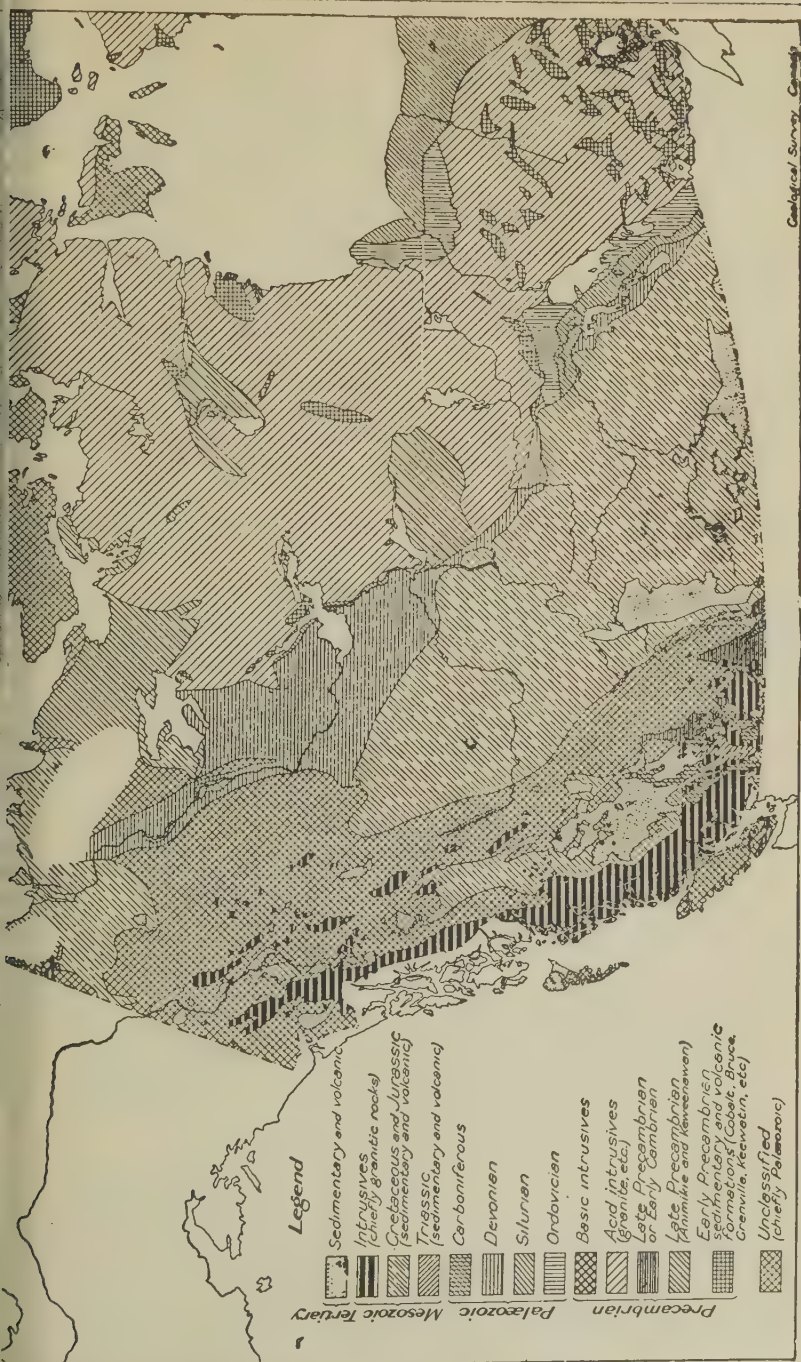
GEOLOGY OF EASTERN CANADA AND NEWFOUNDLAND.

The great area in Eastern Canada underlain by rocks of Precambrian age known as the Canadian (or Precambrian) Shield or the Laurentian Plateau, may be regarded as a subdued plateau or perhaps, more strictly speaking, a planated surface that has been rejuvenated by Pleistocene glaciation and uplift. Its average elevation probably does not exceed 1,500 feet, and, except in the north-east, there are few areas that exceed 2,000 feet. In general, the surface slopes gently to the surrounding plain and there are long stretches of the boundary which there is no marked difference of elevation between the Precambrian Shield and the adjacent Palæozoic plain; there are other long stretches in which there is an abrupt rise of several hundred feet above the plain or the sea. The greatest known elevations are in the eastern part of Baffin island and along the coast of northern Labrador. In Labrador there are four peaks in the Torngats said to have elevations of 6,000 feet. The Torngats are carved from the edge of an elevated tableland which is highest towards the Atlantic and sinks towards the west. The coast is one of the boldest and most rugged of the world, with nearly vertical cliffs rising 1,000 to 2,000 feet in height. Though the Canadian Shield is an area of low relief and has a remarkably even sky line, the surface is generally rugged with successions of rocky hills 100 to 200 feet high. Occasional exceptions occur in which there is a relief of several hundred feet, as in the hills on the north shores of lake Huron and lake Superior. The area is dotted with lakes, large and small, of irregular outline and with numerous islands. They are rock basins that spill the waters from one to another by short streams with rapids and falls. In an area of 250 square miles in western Ontario that cannot be considered exceptional, aerial surveys have shown that there are 700 lakes. There are well-defined deep trench-like features that occupied by lake Timiskaming, related to faulting or other structural features. The Saguenay river flows in a trench that descends to more than 800 feet below sea-level, and lake Superior, the largest body of fresh water on the face of the earth, fills a basin in the Canadian Shield that reaches about 400 feet below sea-level.

Extending south and west from the Canadian Shield and limited on the east by the Appalachian Mountain system and on the west by the western Cordillera of America, is the great North American plain. The northeastern part of this plain occupies southern Ontario south of a line extending from Georgian bay to the east end of lake Ontario, that part of eastern Ontario lying between the Ottawa and St. Lawrence rivers, and the part of Quebec lying adjacent to the St. Lawrence between Montreal and Quebec and extending in a very narrow belt down the river including Anticosti island. The part of the plain west of the Canadian Shield is of wide extent, and stretches northward to the Arctic ocean between a line approximately joining lake Winnipeg, lake Athabaska, Great Slave lake and Great Bear lake on the east, and the foothills of the Rocky mountains on the west.

Although these areas are but parts of one great plain and are disconnected in Canada only because the Canadian Shield happens to project across the International Boundary in a narrow belt east of lake Ontario and in a wide zone between lake Huron and the lake of the Woods, they will for convenience of treatment be considered separately. Those parts lying in the basin of the St. Lawrence and the Great Lakes have been designated the St. Lawrence Lowlands, while the western area has been named the Interior Plains.

The part of the St. Lawrence Lowlands lying in the eastern angle of Ontario and in Quebec south of Montreal, and extending down the St. Lawrence, is comparatively flat and lies less than 500 feet above sea-level. On the lower St. La.



rence it is greatly narrowed by the near approach of the Appalachian system to the Canadian Shield. The part lying adjacent to lakes Ontario, Erie and Huron is a less even surface, has its greatest elevation of over 1,700 feet south of Georgian bay and slopes rather gently to the Great Lakes. A striking topographical feature is the Niagara escarpment. This is an eastward-facing escarpment having a height of 250 to 300 feet and extending from Niagara peninsula northwest to Bruce peninsula.

The Interior Plains region is in general a rolling country with broad undulations and a slope eastward and northward of a few feet per mile, descending from an elevation of 3,000 to 5,000 feet near the mountains on the west to less than 1,000 feet at its eastern border. The elevation of the Canadian Pacific Railway at Calgary is 3,439 feet and at Winnipeg 772 feet. The rolling character of the area is relieved by several flat-topped hills—erosion remnants rising hundreds of feet above the surrounding country—by flat areas that formed the beds of lakes of considerable extent, and by deeply incised river valleys. A striking feature is the broken escarpment of western Manitoba and eastern Saskatchewan, marking the rise of 400 to 1,000 feet from the Manitoba lowland to the upland of the west. A lowland of considerable extent stretches for some distance into Ontario and Manitoba from the south shore of Hudson bay.

The Arctic archipelago consists of large islands, many of which rise prominently from the sea as sloping tablelands while others are comparatively low.

The Appalachian and Acadian regions occupy practically all that part of Canada lying east of the St. Lawrence, with the exception of the lowland west of the line joining Quebec city and lake Champlain. The Appalachian region is a continuation northward into the province of Quebec of three chains of the Appalachian system of mountains. The most westerly of these ranges stretches northeast into the Gaspé peninsula, where it forms flat-topped hills over 3,000 feet high. Mount Jacques Cartier on Tabletop mountain has an elevation of 4,350 feet. The Acadian region, which includes New Brunswick, Nova Scotia, and Prince Edward Island, is an alternation of uplands and lowlands. The northwest part of New Brunswick is an upland with hills and ridges rising to 2,500 feet or higher. Adjacent to the bay of Fundy is a series of ridges rising in places to an elevation of 1,200 feet or more. Between these two New Brunswick uplands is a lowland forming the whole eastern coast of the province and converging towards the southwest. This lowland extends east so as to include Prince Edward Island, the western fringe of Cape Breton island and the mainland of Nova Scotia north of the Cobequid mountains, which have an elevation of 800 to 1,000 feet. South of them lies a long narrow lowland stretching from Chedabucto bay to Minas basin and along the Cornwallis-Annapolis valley between North and South mountains. South of this is a highland sloping to the Atlantic coast and having an elevation at its highest part of about 700 feet. The northern part of Cape Breton island is a tableland 1,200 feet high, with its central part rising to an elevation considerably in excess of this, one point at the headwaters of Clyburn and Cheticamp rivers being 1,747 feet above sea-level.

The Cordilleran region, the mountainous area bordering the Pacific, extends northward from the United States through Canada into Alaska, and embraces nearly all of British Columbia and the Yukon, and the western edge of Alberta and the Northwest Territories. The eastern part of the Cordillera is occupied by the Rocky mountains. They consist of overlapping chains with peaks rising to heights of 10,000 to 12,000 feet. They extend northwest and fall away towards the Liard river. North of this river the mountains with a similar trend lie 100 miles farther east and are known as the Mackenzie mountains. The western part of the Cordillera

occupied by the Coast range and the mountains of Vancouver and Queen Charlotte lands. The Coast range rises to heights of 7,000 to 9,000 feet. Between the Rocky mountains and the Coast range lies a vast plateau system having elevations 3,000 to 4,000 feet, and cut by deep river valleys. The plateau region merges into rugged mountain ranges as it approaches the Rocky mountains; it also breaks into mountains in northern British Columbia, but becomes subdued to a plateau again in the Yukon. A striking feature of the Cordillera is the deep trench that lies immediately to the west of the Rocky mountains, extends northwesterly from the International Boundary into Yukon and is occupied by the head waters of the Stikine, Columbia and Fraser rivers and tributaries of the Peace and Liard rivers.

Subsection 2.—Geology.

Canadian Shield.—The Canadian Shield is underlain by rocks of Precambrian age. These consist of series of sedimentary and volcanic formations and igneous intrusives of great variety. They were subjected to mountain-building processes, folded, crushed and metamorphosed, and the mountains were reduced nearly to their present level before the earliest Palæozoic sediments were deposited. The Precambrian period was probably of greater duration than all the subsequent geological periods taken together.

Geologists do not agree on the main subdivisions of the Precambrian formations. There is one great unconformity, which represents a long period of erosion, and which divides the stratified rocks into two groups, the earlier group consisting of a great mass of volcanics with associated sedimentary rocks and the later group consisting more fully of sediments. The earlier group is greatly folded and altered; the later group has in general been less disturbed and altered. In the earlier group the most important series of rocks is that known as the Keewatin. The Keewatin consists essentially of lava flows accompanied in many places by tuffs and basic intrusives, and includes iron formation, which frequently is made up of thin layers of earth-like quartz, alternating with quartzose layers holding magnetite or hæmatite or both. Sedimentary rocks consisting of conglomeratic, sandy and slaty strata are frequently associated with the volcanics and are, in places, of considerable thickness and extent. They may underlie the volcanics, like the Couchiching of the Rainy Lake area; they may be interbedded with the volcanics, like the Doré formation of Michipicoten; or they may overlie the volcanics, like the Timiskaming formation of northeastern Ontario and western Quebec. Between the volcanics and overlying sediments of northeastern Ontario and western Quebec there is an unconformity that is regarded by some geologists as of major importance. The early Precambrian formations occupy numerous areas of various sizes up to several hundred square miles in western Quebec, northern Ontario, eastern and central Manitoba, and to a less degree in Saskatchewan and the Northwest Territories.

The later Precambrian formations consist in a large measure of sedimentary rocks—conglomerates, quartzites and slates. In an area lying immediately north of lake Huron and stretching northeast to beyond lake Timiskaming lies a succession of sediments known as the Huronian. These consist of: (a) the Bruce series, made up of conglomerates, quartzites and impure dolomitic limestone with an aggregate thickness of 2,700 to 12,000 feet; and (b) the Cobalt series, made up of boulder conglomerate and other materials probably of glacial origin, overlain by quartzite and calcareous quartzite, with an aggregate thickness of 12,000 feet. An erosion interval of considerable time intervened between these two series. These strata are

undulating with gentle dips except on the north shore of lake Huron and eastward where they stand at high angles and represent the core of an ancient mountain range that probably flanked the southern edge of the continent.

In the vicinity of Port Arthur there is a series of nearly horizontal strata, consisting of conglomerate, iron formation and slate. This is the Animikie series. It probably belongs to the Huronian system and may be equivalent in age to the White water series north of Sudbury, consisting of conglomerate, volcanic tuff, slate and sandstone. East of Port Arthur the Animikie is overlain by the Keweenaw series of several hundred feet of red conglomerate, sandstone, shale, calcareous beds, tuff and lavas.

Strata, presumably of late Precambrian age, are known to occur on lake Athabaska, Great Slave lake, east of Great Bear lake, on Belcher islands, on the east of Hudson bay and at other points in the Ungava peninsula. In the southern part of the Ungava peninsula sediments are found that bear a resemblance to the Grenville-Hastings group of southern Quebec and southeastern Ontario.

The Grenville-Hastings group consists of closely folded, highly altered sediments intruded by, and in places interleaved with, granite. They are in general rusty-weathering banded gneisses, quartzose gneisses grading into quartzites, crystalline limestones, amphibolites, pyroxene-rich rocks and volcanic schists. Pegmatite dykes are common and anorthosite occupies large areas. The Grenville-Hastings group forms a belt in the southern part of the Canadian Shield, extending east from Georgian bay. The formations have not as yet been indubitably correlated with the Keewatin and Huronian rocks to the north.

The Precambrian sediments have suffered intrusion at various times by granites. These have been unroofed at different stages in the history of the Precambrian, and pebbles of granite are found in the conglomerates as early as those of Keewatin age. So complete has been the unroofing of the granites that they are exposed over the greater portion of the Canadian Shield. Basic intrusives were common in late Precambrian times. Sills and dykes of diabase cut the late Precambrian sediments around lake Nipigon, to the west of lake Timiskaming and at many other points. A thick laccolith of norite and micropegmatite is found in the Sudbury district.

The Canadian Shield was intensely glaciated during Pleistocene times, with the exception of the more elevated parts of the northern Labrador coast, and in general only a scant amount of soil was left, sufficient partially to conceal the rocks and maintain a forest growth. In some areas, as in part of northern Ontario and Quebec, adjacent to the Canadian National Railway, stratified fine sediments were deposited in lakes formed in front of the retreating glacier.

The Precambrian formations are prolific of mineral deposits of great number, variety and extent. These latter occur generally at or near the contact of the intrusives and the intruded rocks. Among them are the gold deposits of Porcupine and Kirkland Lake, associated with intrusions of porphyry, the silver deposits of Cobalt, South Lorrain and Gowganda, associated with diabase sills, the enormous nickel-copper deposits of Sudbury, associated with norite of a thick laccolith intrusion, the auriferous copper sulphides of western Quebec, the copper-zinc sulphides of Manitoba, and the iron ores and iron pyrites of many localities of Ontario. In the Grenville-Hastings area are found deposits of galena, mica, graphite, feldspar, magnesite, fluorite, kaolin, molybdenite, talc and apatite.

St. Lawrence Lowlands.—The St. Lawrence Lowlands are divided into two parts by an arm of the Laurentian Plateau that extends southward into New York

State, crossing the St. Lawrence between Kingston and Brockville. They are underlain by nearly horizontal Palaeozoic sediments dipping gently away from the Canadian Shield and resting on the sloping surface of Precambrian rocks which, prior to the deposition of the Palaeozoic strata, had been reduced to a physiographic condition similar to that existing on the Canadian Shield to-day.

The sediments are almost wholly of marine origin, consist mainly of limestone, magnesian limestone and shale, and range in age from late Cambrian to late Devonian.

In the Ottawa-Montreal division the latest strata are Ordovician; these, together with the Potsdam sandstone (Cambrian), have a thickness of about 6,000 feet. In the Great Lakes region of southern Ontario the Ordovician formations are succeeded upward by those of Silurian age and these in turn by strata of Devonian age. The Ordovician formations form a zone extending from Kingston to the Niagara escarpment and stretching northwest to Georgian bay and into Manitoulin island. The Silurian formations are exposed in the Niagara escarpment and westward in a belt 25 to 50 miles wide stretching northwest from Niagara peninsula into Manitoulin island. West of this nearly the whole of the area between lake Erie and lake Huron is underlain by Devonian limestones and shales. Each in turn is exposed over an area farther to the southwest than the older and underlying formation, so that in travelling westward from Kingston to Sarnia one passes over the bevelled edges of successively younger strata. Borings made at Courtright, in the township of Moore, show a thickness of nearly 4,260 feet of sedimentary rocks.

It is evident that the seas in which some of these sedimentary rocks were formed extended northward over the Precambrian rocks through Hudson bay into the Arctic ocean. The presence of outliers on lake St. John, lake Nipissing, and lake Timiskaming in the south, and on lake Nicholson west of Hudson bay, of broad areas of Ordovician, Silurian and Devonian formations south of Hudson bay, and of Cambrian, Ordovician, Silurian and Devonian formations on the islands of the northern part of Hudson bay and of the Arctic seas, is clearly indicative of wide submergence. On the Arctic islands formations of Carboniferous (with coal seams) and Triassic ages are widespread, and there are patches of Tertiary sediments (with lignite). There is also evidence of the occurrence of rocks of Mesozoic age in Moose River basin.

The St. Lawrence Lowlands were covered by the glaciers of Pleistocene time, and the bedrock is to a great extent concealed by thick deposits of glacial till. In places are found stratified deposits that formed in lakes at the edge of the retreating ice sheet. Marine deposits were laid down in an arm of the sea that extended up the St. Lawrence and Ottawa valleys to a point above Ottawa.

The only intrusives worthy of mention are the igneous rocks of alkali types that form the Monteregian hills in southern Quebec, Mount Royal and seven others to the east. They are circular or oval hills that rise 600 to 1,200 feet above the plain and appear to be stock-like bodies or conduits that may have led to volcanic vents or larger masses of intrusives.

The mineral deposits are such as are usually found in the less altered sedimentary rocks. Petroleum has been produced in southern Ontario for 70 years; natural gas has been produced for 40 years in the counties bordering on lake Erie; salt has been obtained for a great many years from thick beds lying at a depth of about 1,000 feet in the counties bordering on lake Huron and lake St. Clair; gypsum

is produced in the Grand River valley; limestone and dolomite, utilized in chemical and metallurgical industries, are widespread; materials for construction, for brick, tile and cement manufacture are abundant.

Appalachian and Acadian Regions.—The Appalachian and Acadian regions are composed of geological formations ranging from Precambrian through Palæozoic to Mesozoic. The Palæozoic sediments pass upward from dominantly marine formations into dominantly continental formations. A complete succession is not found and there are several hiatuses in sedimentation.

Sediments, probably of Precambrian age, occur in southeastern Quebec, southern New Brunswick, northern Cape Breton island and on the Atlantic coast of the mainland of Nova Scotia. The thick series of slates and quartzites, known as the Gold-bearing series, forms a belt occupying a very considerable part of the mainland of Nova Scotia, faces the Atlantic coast and is probably of late Precambrian age.

During the Palæozoic period numerous disturbances took place in sedimentation; there were periods of uplift, of folding, and of erosion. Cambrian formations are found in southeastern Quebec, Ordovician formations are of extensive development in the Appalachian region from Vermont to Gaspé, Silurian and Devonian are well developed in Gaspé and the northwestern part of New Brunswick. Patches of Cambrian, Ordovician, Silurian and Devonian rocks are found in other parts of the Appalachian and Acadian regions.

The system of sediments most widely distributed in the Maritime Provinces is the Carboniferous. The formations are mainly of continental deposition although during Mississippian time a part of the area was submerged and received marine sediments. Towards the close of Devonian time there was a period of intense mountain building and igneous activity. Granite masses of large size were intruded in Nova Scotia and New Brunswick and of smaller size in Gaspé and southeastern Quebec. The upheaval was succeeded by intense erosion, and in early Carboniferous time granite masses were exposed by the removal of the overlying rocks.

The Carboniferous system occupies the triangular lowland forming much of the southeastern half of New Brunswick, the part of Nova Scotia north of Cobequid mountains, part of the lowland to the south of these mountains, southwestern and northeastern Cape Breton island and Prince Edward island. On Prince Edward island the Carboniferous may pass upward into the Permian. In the Carboniferous system are found the coal measures of Sydney and Glace bay, of Inverness, Pictou and Cumberland counties, Nova Scotia; and of the Minto coal field, New Brunswick. The extensive gypsum deposits and the salt beds of Nova Scotia and New Brunswick are found in a formation of Mississippian age, and the bituminous shales of New Brunswick and Nova Scotia are also of early Carboniferous age. The Carboniferous system has in places been subjected to folding and faulting, but considerable areas have suffered little disturbance since these sediments were laid down.

Sandstone and lava flows of Triassic age are exposed on the bay of Fundy, particularly on the south coast. North Mountain is composed of basic lava flows capping Triassic sandstone. During the Pleistocene period the whole of the Appalachian and Acadian regions, with the exception of the higher parts of Gaspé, was subjected to glaciation.

The most important economic minerals of the Appalachian and Acadian regions are coal, asbestos, and gypsum. Reference has already been made to the occurrence of coal and gypsum. Asbestos occurs in altered peridotite in southeastern Quebec. These are the most productive deposits of the world. Chromite also occurs in the

peridotite. Auriferous quartz veins, mainly of the interbedded type, are found on domes and pitching anticlines of the gold-bearing series of Nova Scotia. Zinc-lead deposits occur in the Devonian shales and limestones of Gaspé peninsula, zinc-lead-copper sulphides in the southern part of Cape Breton island in a series of lava flows, and copper deposits in southern Quebec.

Interior Plains.—The Interior Plains are underlain by a series of nearly horizontal sedimentary rocks of Palæozoic, Mesozoic and Tertiary ages. The Palæozoic rocks, consisting mainly of limestone, dolomite and shale of Ordovician, Silurian and Devonian ages, form a belt extending north through Manitoba and northwest through Saskatchewan and northeastern Alberta down the basin of the Mackenzie river. East of the Mackenzie, rocks of Cambrian age are exposed in an area of limited extent. The Palæozoic formations rest upon the gently-sloping shelf of the Canadian Shield and pass westward with a dip of a few feet a mile beneath the shales and sandstones of Cretaceous age. The Cretaceous formations occupy nearly the whole of the plain from western Manitoba to the Rocky mountains and extend northward nearly to the Mackenzie river. There are also large parts of the Mackenzie basin, particularly of the lower half, in which the Devonian limestones are overlain by Cretaceous sediments. The Cretaceous sediments vary from shales predominantly of marine origin in the east to sandstones predominantly of continental origin in the west. Between the two are alternations of shales of marine origin with sandstones of brackish water or fresh water origin.

The Cretaceous beds are overlain in places by sediments of Tertiary age. The most extensive Tertiary formations are found in the hills of southern Saskatchewan and in a belt running north through central Alberta, where they lie in a broad syncline. Glacial till is widespread and clays were deposited in large lakes formed on the retreat of the ice-sheet. A large part of southern Manitoba formed the bed of glacial lake Agassiz.

The Interior Plains region is the great wheat-producing area of Canada. The mining of coal is one of the important industries; bituminous coal and lignite are produced in large quantities in Alberta and lignite in smaller quantities in Saskatchewan. The Cretaceous sediments are the reservoirs of great quantities of natural gas, and these and underlying formations are the source of the oil of the Turner Valley and other oil fields of Alberta. Oil has also been struck in the Devonian rocks north of Norman on the Mackenzie river. Gypsum is obtained from the Palæozoic rocks of Manitoba and also occurs in northern Alberta.

Western Cordillera.—In the western Cordillera is a fairly complete succession of sediments of Precambrian, Palæozoic, Mesozoic and Tertiary ages.

The Rocky mountains consist of a series of great fault blocks in which an enormous thickness of Palæozoic and Mesozoic sediments is exposed. Many thrusts of great extent have resulted in an over-riding of the Mesozoic sediments by the Palæozoic, and the erosion of the softer strata of the former has produced longitudinal valleys between the harder Palæozoic blocks. The Palæozoic formations consist mainly of limestones with less amounts of sandstone and shale. A succession with few breaks from the Cambrian through the Ordovician, Silurian, Devonian and Carboniferous is found, and probably extends with certain deviations throughout the length of the Rocky mountains and Mackenzie mountains. Between the Cambrian and Precambrian beds there is apparently little angular unconformity, but the variation horizontally in the Precambrian strata, on which the Cambrian formations rest, and a similar variation in the ages of the over-lying Cambrian strata

furnish evidence of a long period of erosion. The Mesozoic strata consist of soft shales and sandstones some of which are coal-bearing. Strata of Triassic, Jurassic, and Cretaceous ages are represented.

The mountains to the west of the Rocky Mountain trench in southern British Columbia are composed of a series of late Precambrian quartzites, slates and magnesian limestones of great thickness. There are wide areas in the vicinity of granitic intrusives in which intensive alteration of these sediments has taken place. The Precambrian rocks extend west as far as Upper Arrow and Shuswap lakes and north from the International Boundary probably half the length of the province. Quartzites, mica schists and crystalline limestones with interbands and broad areas of schists of various kinds, and intrusive granite gneiss are found over a wide stretch of the Yukon plateau and are probably of Precambrian age. Slates, quartzites and conglomerates, also probably of the same age, occur in the northern part of the Alaska-Yukon boundary, in the Ogilvie range and in the Kluane district.

On the interior plateau of British Columbia, limestones, quartzites and argillites of Carboniferous age and known as the Cache Creek group are of wide distribution. These are succeeded upward by argillites and limestones and a great mass of volcanic intrusives and effusives of Triassic age, and these are succeeded by sediments and volcanics of Jurassic age. The Triassic and Jurassic formations are widely distributed, are found on the islands to the west, and some at least extend into the Yukon.

Formations of Cretaceous age are found on Vancouver and Queen Charlotte islands and in a belt extending up the Fraser and along the eastern edge of the Coast range into the Skeena valley. They are mainly formations of continental origin and carry coal seams, but also include sediments of marine origin and volcanics.

Very early Tertiary times were characterized by widespread orogenic disturbances in the Cordillera. The Rocky mountains were formed and there was much folding and faulting in places in the interior, followed by intense erosion. Tertiary sediments, partly of continental deposition with seams of lignite and partly of marine deposition, occur at many points throughout the interior of the Cordillera and on Vancouver island. Lava flows capping some of these sediments cover broad stretches of the interior plateau.

In Pleistocene time nearly the whole of the Cordillera with the exception of a large area in the Yukon was subjected to glaciation, and glaciation still persists in the mountainous regions. Volcanics of recent age are found in areas of limited extent.

An episode of great economic importance in the geological history of the West was the intrusion of the granitic rocks of the Coast Range batholith and of acid rocks at different points in the interior, particularly in the southern part of British Columbia in Mesozoic times. Many of the more important mineral deposits of British Columbia, such as the copper deposits of Hidden Creek, Britannia, and Allenby mountain, the gold-silver deposits of Salmon River district and the silver-lead deposits of the Slocan, had their origin in solutions given off by the magmas of these acid intrusives.

The lead-zinc deposit of the Sullivan mine lies in sedimentary rocks of Precambrian age. The Cretaceous and Tertiary formations carry seams of coal and lignite of great importance. There are economic deposits of other minerals in great variety throughout the Cordillera, and British Columbia is one of the leading mineral-producing provinces of Canada. The gold of the once famous Klondike region was found in placers of an unglaciated area and the gold of the Cariboo district occurs mainly in Tertiary placers that were unaffected or little affected by glaciation.

Section 2.—Economic Geology of Canada, 1930.*

The purpose of this paper is to call attention to the most important reports and articles treating of the economic geology of Canada and published during 1930. The particular articles here referred to, although recently published, do not necessarily contain the best and most complete information on the subjects treated; for further information it is advisable to consult the Dominion and Provincial Departments of Mines. The reference numbers appearing through the text indicate the publishers as listed at the end of this paper.

Beryl.—Beryl in Manitoba was described by J. S. DeLury.⁴ Pegmatites are found in bodies of schist between granite areas as well as in the margins of the granites themselves. In some pegmatites beryl is found closely associated with feldspar and quartz. Discussing DeLury's paper, Theo Kipp stated that beryllium in order to be used commercially must cost less than \$5 per pound.

Coal.—B. R. MacKay made a report upon the stratigraphy and structure of the bituminous coal fields in the vicinity of Jasper Park, Alberta.⁵ These deposits occur in the Luscar formation of the lower Cretaceous series which outcrops along the front of the Rocky mountains. The area examined extends from the Brazeau river northwesterly to Smoky River coal reserve. The deposits embrace the highest grade steam coal mined in Alberta.

W. S. Dyer described the geology, prospective mining methods and prospective fields of utility of the lignite deposit at Onakawana, Moose River basin, Ontario.⁴ ⁵ Upper Devonian dark brown and greenish-grey shales, lower Cretaceous or upper Jurassic dark grey to light grey plastic clay, lignite and Pleistocene clays and sands are found in the area. The lignite occurs as a single nearly flat-lying seam overlain by boulder clay and underlain by dark grey plastic clay.

Copper.—F. A. Kerr studied the Taku River¹ and Iskut River¹ areas, Cassiar District, British Columbia, situated at the eastern contact of the Coast Range batholith. Highly altered sediments, quartzites, slates, schists, gneiss, limestone and volcanics of Palæozoic (possibly Precambrian), Permian and Mesozoic ages occupy the areas. Replacement deposits consisting of tetrahedrite, chalcopyrite, sphalerite, galena, and other sulphides, carrying some gold and silver values, are found along shear zones in volcanics and limestone.

The mineral possibilities of northern Vancouver island⁵ and the geology and mineral deposits of Quatsino-Nimpekish area, Vancouver island, British Columbia¹, ⁵ were described by H. C. Gunning. Lavas and volcanic fragmentals, interbedded with limestone, argillite, and quartzite, are cut by numerous stocks, dykes and irregular bodies of granitic rocks, believed to be associated with the main Coast batholith. Later sandstone, shale and conglomerate occur. Contact metamorphic magnetite and copper associated with magnetite, gold-quartz veins, quartz-calcite veins with sulphides, lead-zinc replacement deposits in limestone, and bornite or native copper deposits in basic lavas were observed. According to Gunning the district offers splendid possibilities.

In the Heron Bay area, Thunder Bay District, Ontario,⁴ J. E. Thompson found Precambrian volcanic schists intruded by numerous dykes of granite, feldspar porphyry and diabase. Pyrrhotite and chalcopyrite carrying nickel are found in shear zones in andesite, galena, pyrite and chalcopyrite in quartz veins in schistified greenstone, and a titaniferous magnetite as a segregation in augite-syenite.

* Contributed by P. J. Moran, B.Sc., Geological Survey, Ottawa.

The ore deposits near the north shore of Lake Huron, Ontario,³ between Thessalon on the west and Worthington on the east and southward along the Algoma Eastern Railway were described by E. S. Moore. Most of the veins are found in, or adjacent to, diabase intrusions. It is possible that gold occurrences may have been derived from the granite magma. The most promising sections for gold deposits lie in the southeastern part; copper deposits are more abundant farther north, and nickel occurs southwest of the Sudbury nickel region but it is doubtful if large deposits of this metal will be found far from the Sudbury nickel intrusive. Metal deposits are widely distributed. Many of them are small and of little economic importance.

Precambrian schists, iron formation, sediments and basic and acidic intrusives including granite were found in the Boston-Skead area, Timiskaming District,³ by L. V. Bell. Gold which is genetically associated with acid intrusions of Algonkian age usually occurs native in quartz veins in Keewatin lavas, diabase, and andesites and in later intrusions of granite and porphyry. The veins are of the fissure type and the vein walls may or may not be well defined. Replacement deposits of chalcopyrite and bornite are found in iron formation along the granite contact. Narrow veins of galena and sphalerite also occur in Keewatin schist and serpentine.

The Aldermac mine, Rouyn District, Quebec,⁴ was described by Cooke, Alderson and MacKay. Sulphide bodies occur as replacement deposits in Precambrian rhyolites and breccia flows near the southern margin of a large mass of porphyry. Alderson and MacKay state that by using the Freeman burner the large tonnage of sulphides in this mine may be employed for the derivation of sulphur for use in connection with the paper industry. Cooke concludes that the pyrite-pyrrhotite bodies probably emanated from the underlying magma from which the various porphyries were also extruded.

H. C. Cooke also described the intimate geology of the Amulet mine, Quebec.⁵ The sulphide bodies occur as replacements of fault breccias or tuff breccias and are seldom found in proximity to the more massive lavas. The rocks around the ore bodies are profoundly altered. The deposits lie near the crests of anticlines approximate to the dacite-rhyolite contact. It would seem as if the highly flow-textured amygdaloidal and spherulitic top of the rhyolite flow might have afforded a channel for the uprising solutions, while the massive base of the overlying dacite prevented further egress once the summit of the anticline was reached. The formation of dalmatianite (spotted dog) seems to have depended entirely upon the structure. It is found only in connection with those ore bodies that lie at the summits of the anticlines and not near spots of ore found elsewhere.

In the annual report of the Quebec Bureau of Mines, J. A. Retty described the geology of McKenzie township, Chibougamau region, Quebec. Precambrian volcanics, sediments and intrusives are found in the area. Deposits containing pyrite, pyrrhotite and chalcopyrite carrying gold values occur in shear zones in altered anorthosite and volcanics.

The geology of the nickel-copper deposits near St. Stephen, New Brunswick was described by Bela Low.⁶ Silurian schists and altered impure sandstone are intruded by a stock-like mass of gabbro. Along shatter zones in the gabbro and in proximity to the gabbro-schist contact deposits of pyrrhotite carrying copper and nickel are found. Investigations indicate that if sufficient ore could be developed to justify an adequate scale of operations profit would be made.

The history, geology and ore bodies of the Coxheath copper mine, Cape Breton island, Nova Scotia,⁵ were outlined by W. W. Beaton and F. J. Sugden. The rocks

consist of Precambrian volcanics, sediments, and acid and basic intrusives. Deposits of chalcopyrite and bornite occur as fissure fillings and as replacement deposits along a shatter zone in quartz-gabbro and older volcanics. The ore occurs as roughly parallel lenses.

Fluorspar.—In an article entitled *Fluorspar in Canada*,¹ M. E. Wilson affords a concise résumé of the geology of fluorspar occurrences and economic deposits in the Dominion. A short review of the fluorspar of the world is also given. The Rock Candy vein, West Kootenay District, and the Birch Island deposit, North Thompson river, British Columbia, and the Madoc deposits, Hastings County, Ontario, are the most important in Canada.

Gold Placer.—In the report of the British Columbia Bureau of Mines, Herbert Carmichael, C. D. Moore and John D. Galloway compiled available information regarding the history, geology and statistics of placer gold mining in the province, with special reports upon Atlin, Queen Charlotte, Cariboo, Quesnel and Omineca mining divisions.

Gold.—C. E. Cairnes made a report upon the serpentine belt of Coquihalla area, Yale District, British Columbia.¹ Palæozoic volcanics and sediments, Jurassic slates and Cretaceous intrusives including peridotite, diorite, gabbro and some acidic dykes, are found in the area. The serpentine was developed from the peridotitic rocks. Most of the gold occurrences are of scientific interest rather than of commercial importance. The results obtained at the Aurum mine afford reasonable encouragement for further development. The richest values are associated with a heavy concentration of arsenopyrite in a talcose shear zone.

H. S. Bostock described the geology and ore deposit of Nickel Plate mountain, Hedley, B.C.¹ Triassic sediments and volcanics are intruded by a diorite-gabbro stock, sills and dykes, granodiorite and granite. Gold-bearing arsenopyrite in a gangue of metamorphic silicates occurs in a group of sedimentary rocks amongst which a nearly equal volume of igneous rock has been intruded in the form of sheets. The deposit is of the contact metamorphic type.

The geology of the area between Favourable and Sandy lakes, Patricia District, Ontario, was studied by M. E. Hurst.³ Precambrian volcanics, sediments, basic intrusives and granite are found in the area. Mineralization is confined to belts of Keewatin-Timiskaming rocks. A gold-quartz vein containing galena and other sulphides was observed filling a fracture within gabbro-diorite. Molybdenite was found at a silicified granite-greenstone contact and in greenstone within a short distance from the granite.

In the Pickle Lake-Crow River area, Patricia District, Ontario,² M. E. Hurst found Precambrian greenstones, schists, iron formation and basic and granitic intrusives. Gold-bearing quartz veins occur in fracture zones intersecting Keewatin greenstones and iron formation.

The Caviar Lake gold area, Kenora District,⁴ and the Fort Hope gold area, Patricia District, Ontario,³ were studied by E. M. Burwash. In the Caviar Lake area, Precambrian volcanics, sediments, and intrusive granites and basic dykes are found. In the Fort Hope area, Precambrian volcanics, sediments, granite, gneiss and dykes and stocks of diabase are to be observed. In the Caviar Lake area, gold-quartz veins occur in granite, greenstone, basic rocks and in shear zones in quartz porphyry; in the Fort Hope area, gold-quartz veins are found in volcanics and sediments.

J. E. Hawley described the geology of the Sapawee Lake area, Rainy Lake District, Ontario,³ incorporating notes on some iron and gold deposits of the district. Altered volcanics, granite, granite gneiss, sediments and basic intrusives comprise the bedrocks. Gold-quartz veins, appearing to be related to one major period of Laurentian intrusions, are found in Laurentian granite and gneiss, in greenstones adjoining quartz porphyry intrusions or related rocks, and in these intrusions as well. The Atikokan iron deposits belong to a type that differs markedly from the typical banded iron formation of northern Ontario. The iron, chiefly magnetite and pyrrhotite, occurs as lenses and irregular masses in highly altered gabbro.

In the Beardmore-Nezah area, Thunder Bay District, Ontario,⁷ George B. Langford found Precambrian volcanics, granite, basic and acidic dykes and diabase dykes and flows. Gold accompanied by arsenopyrite, pyrite, pyrrhotite, chalcopyrite, sphalerite, galena, native copper and tourmaline occurs in quartz veins in iron formation and in some cases in volcanics and sediments. No commercial iron ore bodies are developed although considerable exploratory work has been done.

In the Groundhog River area, Cochrane District, Ontario,⁴ A. R. Graham found Precambrian volcanics intruded by gabbro, granite porphyry and diabase dykes. Gold-quartz veins are found in altered volcanics and porphyry. Chalcopyrite is found in pyrrhotite lenses in gabbro intrusions. Nickel also occurs in the pyrrhotite.

H. C. Laird made a report upon the geology of Germain, Stock, Macklin, Bond and Currie townships, Porcupine District, Ontario.⁴ Precambrian lavas, sediments and diabase dykes comprise the bedrocks of the area. Gold is found in narrow quartz stringers cutting syenite porphyry, in carbonated schists and in narrow shear zones in lavas.

H. C. Rickaby briefly described the Bannockburn gold discovery, Matachewan District, Ontario.⁴ Gold tellurides are found in quartz veins. Results of development work are encouraging.

In the Report of the Quebec Bureau of Mines, L. V. Bell and A. MacLean made a detailed report upon the geology of the Bosquet-Cadillac area, Abitibi County, Quebec. Precambrian volcanics, iron formation, sediments and intrusive granite, diorite, aplite, feldspar-porphyry and gabbro occur in the area. Gold-quartz veins, lenses and stringers are found in volcanic and sedimentary rocks.

Gypsum.—The gypsum industry of Canada² was comprehensively summarized by L. Heber Cole. Specific occurrences according to provinces, the testing, technology and uses of gypsum and gypsum plasters, and the gypsum industry are described. Production statistics of the world are also incorporated in the report.

A. E. Cameron in the report of the Scientific and Industrial Research Council of Alberta described gypsum deposits occurring in Palaeozoic sediments exposed for fifteen miles on both sides of the lower Peace river from Little Rapids to five miles below Peace Point, Alberta. Overlying the gypsum is a fractured bed of limestone, but since the structure of the bed is undulatory the gypsum is frequently brought up to the top of the cliffs and has no cover except the drift, the limestone being removed by erosion. A considerable portion of the gypsum is favourably situated for mining on account of its location and the thin overburden of drift. Transportation problems have not yet been fully solved.

Lead-Zinc.—The Owen Lake mining camp¹ and the Buck Flats¹ area, Coast District, British Columbia, were examined by A. H. Lang. Volcanics and sediments

intruded by granite and microdiorite, were observed in the Owen Lake area. Deposits of galena, sphalerite and copper carrying some silver values are found filling fracture zones and fractures in diorite, and as replacements in pyroclastics. In the Black Flats area, tuffs and breccias are intruded by diabase. Irregular veins and stringers and disseminated replacement deposits of galena, sphalerite and pyrite are found in tuffs and breccias.

The geology and mineral deposits of the Lardeau map area,¹ Kootenay District, British Columbia, were examined by J. F. Walker, M. F. Bancroft and H. C. Gunning. Precambrian and Palaeozoic sediments, Triassic greenstone dykes and sills and late-triassic granite batholiths are found occupying the area. Contact metamorphic deposits containing pyrrhotite, chalcopyrite and a little zinc blende and arsenopyrite, and quartz veins, silver-lead-zinc veins, galena-sphalerite replacement deposits in limestone, quartz-tetrahedrite veins and silver-lead veins were observed.

J. F. Walker described mineral developments in the Salmo map area,¹ Kootenay District, British Columbia. The greater part of the area is underlain by sedimentary rocks which are intruded by large and small masses of the Nelson batholith. The sedimentary succession is folded into a series of anticlines and synclines. Zinc and lead-silver replacement deposits in limestone are found along the westerly anticline. Gold fissure veins are found along the central quartzite anticline. Some gold deposits lie to the east of this anticline, and to the west between it and the zinc belt are some sulphides carrying gold.

The lead-zinc deposits of Dorion and McTavish townships, Thunder Bay District, Ontario,³ were examined by J. E. Hawley. Precambrian micaceous schists and sediments, iron formation, granite, granite-gneiss, pegmatites and diabase dykes and sills comprise the bedrocks. The lead-zinc deposits occur in fractured and faulted rocks, chiefly diabase, sediments, mica schist and granite. The deposits are in the form of simple veins in fractures and as part of the cementing material in associated fault zones. Low grade iron ore and sandstone suitable for building stone are also found.

H. M. Bannerman in studying the mineral deposits of the eastern part of Rush Lake area,¹ and the northern portion of Woman River area,¹ Sudbury District, Ontario, found Precambrian schistified lava flows, pyroclastics, iron formation, thin beds of clastic sediments, greenstone intrusions, ultra-basic dykes, intrusive granites and gneiss associated with numerous dykes and sills of diorite, altered diabase and quartz porphyry and a profusion of fresh-looking diabase dykes. The iron formation consists of two members, one of which is sedimentary and the other contains replacement deposits. The sedimentary member is made up of interbedded silica and iron carbonate or hæmatite, but locally the carbonate or hæmatite gives place to pyrites. Where contact metamorphism has been severe the carbonate and hæmatite have been converted into magnetite. These silicious deposits occur as continuous overlapping flat lenses, and on the whole are too lean to be considered of economic importance. The replacement deposits lie almost exclusively in the hornblende and greenstone schists immediately south of the banded silica. These deposits are extensive and contain large concentrations of iron. They are composed of iron carbonate, pyrite, magnetite and pyrrhotite. Lead-zinc-copper concentrations are found associated with pyrite, magnetite and pyrrhotite in the replacement member; lead-zinc-copper deposits associated with pyrite are also found in the banded silica and sediments; and copper-gold deposits associated with pyrite are found in granitic rocks.

W. H. Collins,¹ A. G. Burrows and H. C. Rickaby,³ presented studies of the southwestern portion of the Sudbury Nickel basin, Sudbury District, Ontario. Collins points out that an opinion prevails that lead-zinc deposits inside the basin have originated from the nickel irruptive and that they have localized along fault planes that afforded channels for the ascending mineral solutions. The interior of the basin is largely surfaced with clay and sand and it is almost impossible to find faults on the ground. About the only clues to their existence and course are found in the rocky area underlain by the nickel irruptive. Several faults are indicated. Burrows and Rickaby state that the lead-zinc-copper deposits within the basin lie on a major fault cutting the basin. Deposits are found in the black slates and talus in hard silicious volcanic fragmental rock that is near the contact with the micropegmatite and at several places in the micropegmatite. Descriptions of development are given of the Treadwell-Yukon, Sudbury Basin and other properties.

In the Cartier-Stralack area, Sudbury District, Ontario,³ F. F. Osborne found pre-Huronian gneiss and schists, granite, basic intrusives (probably Keweenawian) and Huronian sediments. Lead, zinc, copper, nickel, cobalt, magnetite, specularite and molybdenite mineralization with in some cases gold and silver values are found. The properties of promise are in the pre-Huronian gneisses and schists; the deposits in the granite are unimportant and those in the Huronian rocks are sparse.

The Desmeloizes area, Abitibi County,¹ Quebec, was studied by J. B. Mawdsley. The area is underlain by Precambrian volcanics, sediments, quartz-diorite, granite and diabase dykes. Deposits of lead-zinc-copper associated with pyrite and pyrrhotite occur in carbonated and silicified, brecciated and sheared volcanics. Descriptions of the Abana mine and other properties are given.

Limestone.—A preliminary report upon the limestones of northern and western Ontario and of the Prairie Provinces² was made by M. F. Goudge. In Alberta great thicknesses of Cambrian to Carboniferous limestones are exposed along the eastern ranges of the Rocky Mountains. These limestones vary widely in quality and type not only in vertical sections but also laterally in the same beds. The attitude of the rocks in most cases does not lend itself to the cheapest method of mining.

Mica.—H. S. Spence outlined the status of the Canadian mica industry,² the world's supply and production, mode of occurrence, method of mining and preparation for the market, mines and occurrences of phlogopite, muscovite and other varieties in Canada, marketing, uses, manufactures and patents relating to the industry.

Oil and Gas.—The oil possibilities of the northern Okanagan valley, British Columbia,¹ were briefly summarized by C. E. Cairnes. The underlying rock comprising the much altered Shuswap series associated with granite intrusions present little encouragement for drilling for oil.

M. Y. Williams and W. S. Dyer made a report upon the stratigraphy and structural and economic geology of southern Alberta and southwestern Saskatchewan.¹ Descriptions of Bow Island, Medicine Hat and Foremost gas fields are given. The oil and gas possibilities are summarized. The coal, sodium sulphate, shale and clay for brickmaking, building stone, artesian water, volcanic ash and bentonite resources are briefly outlined.

In the report of the Research Council of Alberta, R. L. Rutherford described the geology and water resources of the Peace River and Grand Prairie Districts. The consolidated strata consist of Cretaceous sandstones, shales and clays. The geological conditions prevailing indicate that a good supply of water cannot be obtained from the upper strata. Road material is apparently not readily available within most of the settled districts south of the Peace river. Lithologically some of the underlying formations are suitable for the accumulation of oil. Heavy oil was encountered in some wells drilled to the north but none proved commercially productive.

C. S. Evans and J. F. Caley made a reconnaissance survey of the foothills in the Wapiti River basin, Alberta.¹ All the rocks observed, with the exception of some limestone at the extreme southwest corner, are of Cretaceous age and consist of sandstone and shale with some conglomerate and a few coal seams. Both marine and freshwater strata are represented.

Some stratigraphic sections in the foothills region, between the Bow and North Saskatchewan rivers, Alberta,¹ were studied by C. S. Evans. Jurassic, lower Cretaceous and upper Cretaceous formations were observed.

E. H. Cunningham Craig, in the *Journal of the Institute of Petroleum Technologists*, described the oil fields of Alberta. The general geology, source of oil, proved fields and unproven structures are indicated. There appears room for much further scientific exploration and a probability of more important fields being developed.

In a report entitled "The Highwood-Jumpingpound Anticline, with Notes on Turner Valley, New Black Diamond, and Priddis Valley Structures, Alberta"¹ G. S. Hume discusses the intimate geology and geological structures and includes a few comments upon oil and gas prospects.

G. R. Elliott⁵ and A. J. Gordon⁴ wrote interesting articles upon the Turner Valley oil and gas field, Alberta. Elliott outlined the general geology, history of the Alberta petroleum industry, sub-surface structure, drilling methods and production of Turner Valley and other fields of high-gravity production. In concluding Elliott considers that scientific exploration backed by abundant capital may open up new fields in the foothills district. It is Gordon's belief that Turner Valley is not a true "nappe" which has been carried forward bodily over Mesozoic sediments along a low angle fault, but that it is a strongly faulted fold possibly developing into a "nappe" towards the north.

P. S. Warren made a report upon oil and gas prospects in central Saskatchewan,¹ and G. S. Hume summarized the natural gas prospects of Saskatchewan^{1 4} and the progress being made in the Ribstone-Blackfoot anticline.⁴ Warren describes central Saskatchewan as being underlain by a flat-lying series of upper Cretaceous sediments which are for the most part shales and sandstones. Prospecting by means of drilling for oil and gas so far has had little success. Hume states that the bed rock geology of Saskatchewan is masked by soil and drift. The Dirt Hills south of Moose Jaw and the extension of the Ribstone area into the province are possible favourable structures. In the Ribstone area, Devonian limestone, lower Cretaceous sandstone and shales and upper Cretaceous shales and sandstones are found. According to Hume drilling in this area is producing favourable results.

S. R. Kirk studied the Cretaceous stratigraphy of the Manitoba escarpment.¹ Cretaceous sandstones, limestone and shales are found. A good deal of drilling for oil has been done but without favourable results. Refractory clay is found in the area.

W. A. Parks in the Annual Report of the Quebec Bureau of Mines reviewed the oil and gas resources of the province of Quebec. The general geology and structure of the Gaspé oil area are stated, occurrences of petroleum in the Trenton limestone in the province are indicated, bituminous shales and sandstones are described and natural gas occurrences are noted.

Radium.—The Wilberforce radium occurrence, Haliburton County, Ontario,⁵ was examined by H. S. Spence and R. K. Carnochan. Granite and sedimentary gneisses, nepheline syenite, gabbro, diorite, amphibole and white crystalline limestone occupy the district. Many pegmatites invade the rocks adjacent to the granite masses. The pegmatite with which uraninite is associated contains little or no free quartz and is regarded as syenite. Uraninite is found scattered through the rock in small quantities. At the Richardson property it is found in a miarolitic cavity of unusual form and extent in pegmatite at its contact with the enclosing gneiss. It is disseminated in the form of large crystals and lumps in a lead of calcite and fluorite which also carries large crystals of apatite.

Cyril W. Knight described a discovery of pitchblende at Echo Bay, Great Bear lake, Northwest Territories. Bedrock geology consists of Precambrian volcanics, sediments, limestone, granite and basic sills. Pitchblende, cobalt and native bismuth occur associated with quartz veins.

Tin.—J. F. Wright⁴ and Duncan R. Derry⁷ described the tin-bearing pegmatites of southeastern Manitoba. Wright states that cassiterite and lithium-bearing minerals are localized in lenses and irregular shaped masses within albite-bearing pegmatites. Cassiterite is present sparingly in several of the quartz-muscovite phases of the pegmatite. Beryllium deposits at present known are too small to be profitably worked. Derry describes the geology of the area as being underlain by Precambrian volcanics and sediments intruded by an igneous series ranging from ultra-basic to acidic rocks, and including pegmatite dykes, sills and masses. All cassiterite seen occurs as segregations at the apices of dome shaped masses or near the hanging wall of flat-dipping dykes and sills of pegmatite. These segregations appear to occur at the contact of a pink feldspathic phase and a quartz muscovite phase of the pegmatite. No economic deposits have yet been developed.

The *Mining Magazine* affords a study of the geology of the Mill Road area, near New Ross, Nova Scotia, by E. H. Davidson. It is stated that the geology is similar to that of west Cornwall. Veins of greisen with central quartz veins carrying cassiterite are found in muscovite granite. The values of the lodes so far opened up vary from 12 pounds to 28 pounds of black tin per ton.

Water.—Howard E. Simpson studied the ground water resources of Regina, Saskatchewan.¹ The area is occupied by Cretaceous sandstone and shales and Pleistocene till, gravel, and lake clay. Appendices containing analysis of water and logs of test holes are incorporated. There appear but two available sources of water supply for Regina: (1) The south Saskatchewan river, a surface water supply; (2) The shallow artesian water having its source in glacial drift of the Moose

Mountain moraine. The river water would require treatment to remove turbidity, filtration and also chlorination to render it potable and safe. It would have to be brought 115 miles at great cost and would require a considerable time to secure it, but would be soft, ample and permanent. The artesian water would require no treatment to render it wholesome or bacteriologically pure though softening is desirable on account of its hardness, the cost would be comparatively low, the supply available in a short period of time and it would be adequate until the demand exceeds 8,000,000 gallons a day.

Zinc-Lead.—F. J. Alcock in *Zinc and Lead Deposits of Canada*¹ summarizes the history, mineralogy, and geology of these metals. Canadian and foreign occurrences are briefly described and statistical information is appended.

Miscellaneous.—Core drilling of bituminous sands of northern Alberta² was described by S. C. Cole. Results clearly indicate that exposures of bituminous sand cannot be regarded as an accurate indication of conditions that may be met in adjacent areas. Logs of holes and analysis of samples are incorporated.

In describing the fire clays of southern Saskatchewan⁴ G. M. Hutt states that those of the Whitemud formation are the most important and that the clays occur in large part in outcrops which can be easily worked and are favourably situated with regard to transportation.

Sydney C. Miffen described the Wabana iron ores, Conception bay, Bell island, Newfoundland.⁴ The deposit is of primary sedimentary origin. The ore beds occur throughout the upper thousand feet of a series of Ordovician shales and sandstones in contact with older Precambrian rocks. The upper bed averages 5 to 8 feet in thickness. Underlying it at an interval of 60 feet is the Scotia bed 7 to 9 feet thick. Although the field is badly faulted and has lean streaks traversing it there is, as yet, no indication of its termination.

A study of the peat bogs in southeastern Canada¹ was made by Vaino Auer. This report gives results of an investigation of thirty-four peat bogs in the region stretching from Niagara district east to and including Nova Scotia. Conditions affecting the growth, origin of flooded lands, physical features due to variation in degrees of moisture, origin and development and evidence of climatic changes are outlined. Lists of seeds and plants found in the bogs are also appended.

L. H. Cole made a report upon the potash salts in the Maritime Provinces.² Potassium chloride occurs at Malagash in small lenticular concretions in a matrix of halite. It is not economical to recover the potash by the present method of operating the deposit, which aims at recovering the sodium chloride only. Near Gautreau village, Westmorland County, New Brunswick, a bore hole enters beds of rock salt 485 feet thick at 1,295 feet in depth. A study of samples from this bore hole reveals the presence of small quantities of potassium and there is a possibility of concentration of potash salts in certain definite horizons in the salt strata. Further drilling and sampling will alone determine whether or not potash salts are present in commercial quantities.

The salt industry of Canada² was described by L. Heber Cole. Occurrences throughout the Dominion, mineralogy and technology of salt manufacture, the allied industries using salt and the salt industry of Canada are outlined.

A. D. Campbell described the geology, faulting and veins, vein minerals and ore shoots of the Gowganda silver area, Ontario.¹ Milling practice at the Castle-Trethewey mines is outlined. The silver shoots are in the comparatively small areas of extensive calcite veins. Most of the silver has been found in diabase rock under the Keewatin. Some silver has been found in Huronian rocks above the diabase sill.

The officers of the Geological Survey, Department of Mines, Ottawa, Ontario, compiled a work entitled *Prospecting in Canada* which should prove of interest to the prospector, geologist and mining engineer. The subject is treated under the following heads: elements of geology and mineralogy, formation and destruction of mineral deposits, types of mineral deposits, outline of the geology of Canada, physical phenomena of ore deposits and field practice.

The First Annual Report on Mines and Minerals was published by the Manitoba Department of Mines and Natural Resources. This publication affords a comprehensive résumé of the general geology, power development, physiography and mining development in the province.

SOURCES OF REPORTS AND ARTICLES REFERRED TO IN THE TEXT.

¹ Geological Survey, Department of Mines, Ottawa, Ont.; ² Mines Branch, Department of Mines, Ottawa, Ont.; ³ Department of Mines, Toronto, Ont.; ⁴ Canadian Mining Journal, Gardenvale, Quebec; ⁵ Canadian Institute of Mining and Metallurgy, Drummond Building, Montreal, Quebec; ⁶ Engineering and Mining Journal, New York; ⁷ Economic Geology, New Haven, Conn., U.S.A.

PART III.—SEISMOLOGY IN CANADA.

An article on Seismology in Canada, by Ernest A. Hodgson, M.A., appeared at p. 37 of the Canada Year Book, 1931.

PART IV.—THE FLORA OF CANADA.

Under the above heading the Canada Year Book, 1922-23, contained an article prepared by the late J. M. Macoun, C.M.G., F.L.S., and M. O. Malte, Ph.D., and revised by the latter. See p. 25 of the 1922-23 edition or p. 73 of the 1921 edition.

PART V.—FAUNAS OF CANADA.

The Canada Year Book, 1922-23, contained an article under the above heading by P. A. Taverner of the Department of Mines, Ottawa. See p. 32 of the 1922-23 edition or p. 82 of the 1921 edition.

PART VI.—THE NATURAL RESOURCES OF CANADA.

The economic life of new countries must at first depend entirely, and later mainly, upon their natural resources. Older countries, after exhausting their most easily obtained resources, turn for a livelihood to manufacturing and similar pursuits, conserving their remaining resources and utilizing those of less developed areas.

Canada is distinctly a new country and her resources are for the most part in the early stages of development. The fur, fishery and forest resources have, it is true, been the basis of trade for two or three hundred years but exploitation on the present commercial scale is of relatively recent growth. A notable feature, especially in so young a country, has been the effort directed to conservation and, in the cases of those resources which admit of such methods, the actual replenishment or augmentation of the sources of supply by the practice of reforestation, silviculture, farming or the establishment of fish hatcheries.

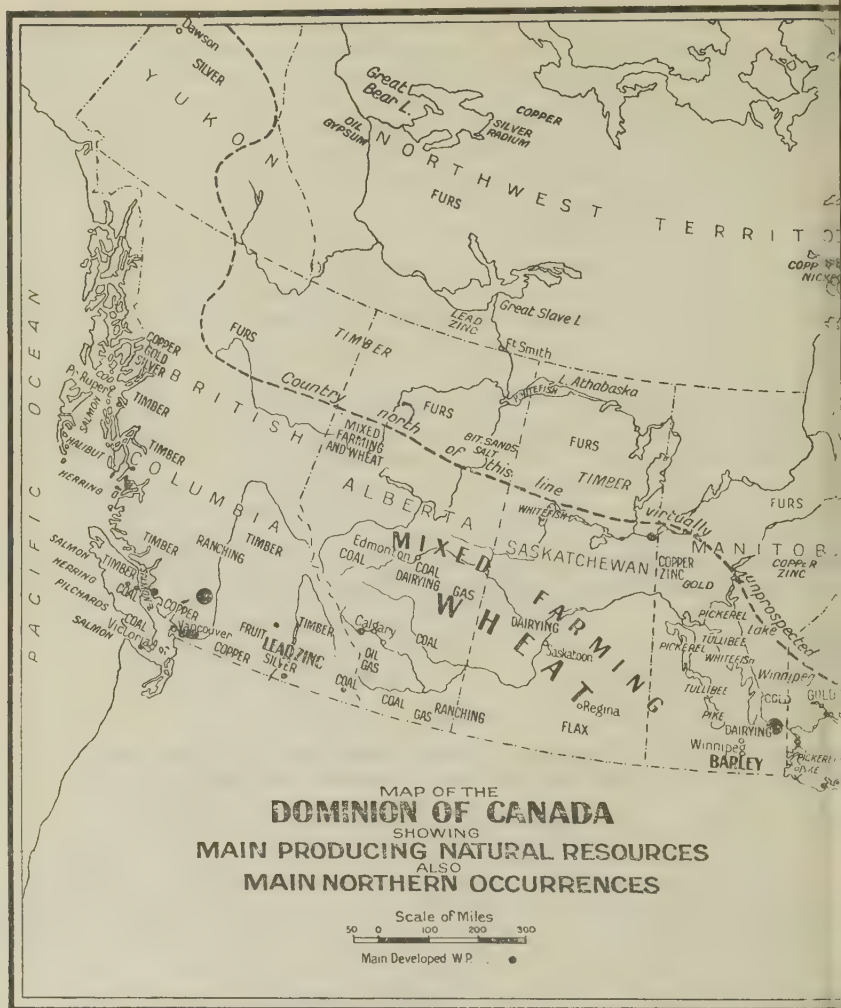
In recent years numerous surveys and investigations of the extent and value of the resources have been made. A short summary of important details regarding them follows. Fuller information will be found in the introductions to later chapters on Agriculture, Furs, Fisheries, Forestry, Minerals, Water Powers—of this volume.

Agricultural Lands.—Of the total land area of the nine provinces (1,309,724,000 acres), it is estimated that approximately 358,162,190 acres are available for use in agricultural production. This figure is of course an estimate and is taken to include lands now occupied by agriculturists, including grazing lands, and all lands susceptible of devotion to similar purposes. The area at present under cultivation is but a fraction of this total, the extent under field crops in 1930 being 62,214,670 acres, while the total area under pasture in the same year was 9,889,513 acres. Statistics of farm lands at the census of 1921 place the area then occupied at 140,887,000 acres; the area of what may be considered as agricultural land still available for occupation was, therefore, 217,274,287 acres. Details are given by provinces in Table 6.

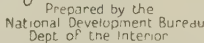
—Area of Occupied and Estimated Available Farm Lands in the Nine Provinces of Canada, 1921, with Estimated Land Area, 1931.

Province.	Area Occupied.	Area Available.	Total Agricultural Land.	Total Land Area, 1931.
	acres.	acres.	acres.	acres.
Prince Edward Island.....	1,216,483	41,707	1,258,190	1,397,760
Nova Scotia.....	4,723,550	3,368,450	8,092,000	13,275,520
New Brunswick.....	4,269,560	6,448,440	10,718,000	17,734,400
Quebec.....	17,257,012	26,487,988	43,745,000	365,442,560
Ontario.....	22,628,901	33,821,099	56,450,000	232,500,480
Manitoba.....	14,615,844	10,084,156	24,700,000	143,857,280
Saskatchewan.....	44,022,907	49,435,093	93,458,000	152,304,000
Alberta.....	29,293,053	67,829,947	97,123,000	159,232,000
British Columbia.....	2,860,593	19,757,407	22,618,000	223,980,800
Totals.....	140,887,903	217,274,287	358,162,190	1,309,724,800

Thus, in all the provinces but Prince Edward Island, large areas are still available for settlement, and while the nature of the soil and of the climate may in some cases restrict the variety of crops, in general the grain, root and fodder crops can be profitably grown in all the provinces, while stock raising is carried on successfully throughout in the more densely settled areas and beyond their frontiers.



The Maritime Provinces are noted for their fruit and vegetable crops, particularly for the oat and potato crops of Prince Edward Island and New Brunswick, and the apples of the Annapolis valley in Nova Scotia. Quebec and Ontario are pre-eminently mixed farming communities, various districts specializing in dairying, tobacco, sheep, etc., while the Niagara peninsula in Ontario has long been famous for its fruit crops of both large and small varieties. In Manitoba, Saskatchewan and Alberta the production of grains, especially wheat, is still of primary importance but is giving way to more diversified types of agriculture, while the stock raising industry, once so typical of the prairies, is regaining much of its former importance. In British Columbia the fertile valleys are devoted principally to apples and other fruit crops, and numerous districts along the coast and on Vancouver island are given over to general farming and market gardening.



Forests.—The forests of Canada rank second only to agriculture in their contribution to the national income. It is estimated that forest products make up about 20 p.c. of the all freight hauled on Canadian railways, and the heavy excess of exports over imports which the wood and paper group provides, amounting to 184,472,445 for the fiscal year ended March, 1931, constitutes an influential factor in Canada's balance of international trade.

Canada's forest area may be roughly divided into three main parts: (1) the great coniferous forest of the Pacific slope, (2) the northern forest, principally

coniferous, which stretches from the east slopes of the Rockies, north of the prairies and of the Great Lakes to Labrador, and (3) the mixed softwood and hardwood forests extending from lake Superior through southern Ontario and Quebec to the Maritime Provinces. Canada's forest area is estimated at 1,151,454 square miles, some of which is agricultural land; 17.3 p.c. is covered with accessible mature merchantable timber, 9.7 p.c. with immature but merchantable forest products and 48.2 p.c. with accessible young growth which will eventually be merchantable. The remaining 24.8 p.c. is inaccessible or unprofitable at present. With regard to quantity of timber it has been estimated at 424,637,000,000 feet board measure for saw timber and 1,121,993,000 cords of pulpwood, ties, poles, etc., the stands in Eastern Canada making up 41 p.c., the Prairie Provinces 25 p.c. and British Columbia 34 p.c. of the total, which amounted to over 224,300,000,000 cubic feet. These figures place Canada as the second most important country in the world with regard to total forest area, Asiatic Russia being first and the United States third. During recent years the annual cut (estimated at 4,136,000,000 cubic feet in 1931) has generally exceeded the new growth, and enormous losses have been caused by fire and other destructive agencies. In spite of the vast extent of the uncut and unburned forests it cannot be said that the measures so far taken by legislation and the application of scientific forestry to preserve them and encourage their reproduction have been sufficient to assure us an adequate supply of timber for the future. Yet an annual increment of 10 cubic feet per acre, which is quite possible under forest management, would provide in perpetuity for the needs of a population of 17 millions at the present annual rate of use.

A classification of Canada's forest area is given in Table 7. The total of forest land is divided into the areas at present carrying timber of merchantable sizes or valuable young growth, and other areas unsuited for present exploitation. It may be pointed out, however, that many of these latter will develop into productive areas as the demand increases and transportation facilities are extended. The totals of forest land given in this table refer to areas which are on the whole better suited to forest production than to any other purpose, although they include about 82,000 square miles of potential agricultural land at present covered with forest.

7.—Area of Productive and Unproductive Forest Land in Canada, 1931.

Province.	Forest Land.				Total Land Area.
	Accessible.		Unprofitable or Inaccessible.	Total Forest Area.	
	Merchantable.	Young Growth.			
	square miles.	square miles.	square miles.	square miles.	square miles.
Prince Edward Island.....	484	240	—	724	2,184
Nova Scotia.....	6,000	4,296	4,924	15,220	20,743
New Brunswick.....	15,750	9,110	—	24,860	27,710
Quebec.....	150,000	250,000	100,000	500,000	571,004
Ontario.....	70,000	100,000	70,000	240,000	363,282
Manitoba.....	5,000	60,000	10,000	75,000	224,777
Saskatchewan.....	10,000	15,000	25,000	50,000	237,975
Alberta.....	30,000	40,000	16,650	86,650	248,800
British Columbia.....	23,000	75,000	51,000	149,000	349,970
The Territories.....	1,000	1,000	8,000	10,000	1,463,563
Totals.....	311,234	554,646	285,574	1,151,454	3,510,009

* As per Labrador Boundary Award of Mar. 1, 1927.

Forest products have always formed a large part of the raw material used in kinds of industrial activity. At the present time products of forest origin form a quarter of our total exports, being exceeded only by the products of the farm.

Because of our climate, coniferous trees form over 80 p.c. of our forest resources and over 95 p.c. of our forest products as at present exploited. Because of their universal use in industry, the softwoods are in greatest demand, not only in Canada but in the markets of the world. Canada enjoys the reputation of holding the Empire's reserve of softwood timber, being rivalled in her coniferous forests only by the Russian Empire and the United States. The Canadian species of both hardwoods and softwoods yield lumber and timber of dimensions and quality that are equal or superior to those produced by forests elsewhere.

Statistics of forest production (operations in the woods) in 1929 place its total value at \$219,570,129, with a corresponding equivalent in standing timber of 3,090,764,700 cubic feet. The most important items are logs for sawing, valued at \$79,278,700, and pulpwood for use and export, valued at \$76,120,063. The total value of mill products in 1929 was \$146,989,564 and that of pulp and paper-mill products \$3,970,761.

Furs.—Although the rapid advance of settlement has greatly restricted the source of fur-bearing animal life cradled in the vast expanses of northern Canada, Canada, after three and a half centuries of exploitation, still holds a foremost place in the ranks of the world's fur producing countries.

Raw furs are at present the only economic return from hundreds of thousands of square miles of the area of the Dominion and are a resource to which all the provinces and territories contribute.

The large uninhabited areas of northern Quebec, Ontario, Manitoba and the Northwest Territories furnish subsistence for many of the most highly prized fur-bearing animals, among the most important of which are the beaver, fisher, various species of fox, marten and others. The animals are usually caught in traps during winter months, when the country is more accessible than during the summer and pelts are in the best condition. The successful breeding of the fox on fur farms began with the period of rising prices after 1890, and has since developed into an important industry. Prince Edward Island has always been the centre of the industry, but farms are now found in all provinces of the Dominion. On Dec. 31, 1929, 4,493 fox farms were in operation with a total of 103,631 foxes, principally of the "silver" variety.

Although the fox has proved the most suited to domestication, other kinds of fur-bearing wild animals are being raised in captivity—mink, raccoon, skunk, lynx, marten, rabbit, marten and fisher. Karakul sheep, from which are obtained the furs known as "Persian lamb," "astrakhan" and "broadtail", are also being raised successfully in Canada. In 1929 the number of farms engaged in the raising of fur-bearing animals other than foxes was 1,020. Mink farms are the most numerous in the miscellaneous class, muskrat farms coming second and raccoon third. Over 90 per cent of the fox farms also raise miscellaneous fur-bearing animals in addition to the fox.

The total value of the raw fur production of Canada for the season 1929-30 was \$15,376,000. This total comprises the value of pelts of fur-bearing animals taken by trappers and of those raised on fur farms. Pelts sold from fur farms in the calendar year 1929 were valued at \$2,304,910 and animals sold at \$4,474,953.

Fisheries.—The first of Canada's resources to be exploited by Europeans was the fishing banks of the Atlantic coast. It is believed that for many years before the actual discovery and settlement of North America the cod banks south of Newfoundland and east of Nova Scotia had attracted French fishermen by their abundance of fish. These fishing grounds alone extend along a coast line of more than 5,000 miles, comprising an area of not less than 200,000 square miles, and are in the course of the cold Arctic current, a fact which tends greatly to improve the quality of the fish. The most important fishes of the off-shore fisheries are the cod, halibut, haddock, herring and mackerel, while the inshore and inland fisheries number lobster, oyster, salmon, gaspereau, smelt, trout and maskinonge among their catches. Other fishing grounds include the inshore expanses of the St. Lawrence river, the Great Lakes, where whitefish and herring form perhaps the most valued catches, and innumerable other inland water areas abounding with trout, pike, bass and other game fish; and the Pacific coast. The fisheries of British Columbia, with a coast line of 7,000 miles, have in recent years shown a rapid development, and the products of the estuarian salmon fisheries of the Fraser, Skeena and other rivers now make up two-fifths of the value of fish products of the Dominion, while in addition large catches of halibut, herring and whales are made off the western coast. The total value of the fisheries in the calendar year 1930 was \$47,804,216.

The above statistics give a general survey of the commercial aspects of the fisheries but do not indicate the advantages which Canada has to offer to those who fish for sport. This too has its economic features in a country of such famous game fish as the salmon of the Restigouche, the black bass of the Quebec and Ontario highlands and the trout of the Nipigon. A considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes.

Minerals.—The numerous and varied mineral deposits of the Dominion form another of her most important resources. Mining is an old industry, coal having been produced in Nova Scotia and iron ore in Quebec early in the eighteenth century. The main development in the industry has taken place, however, in the twentieth century, during which there has been a great increase in the total and per capita production of minerals and mineral products.

There is a great variety of minerals, metallic and non-metallic. Coal has long been the leading mineral, but in 1931 the estimated value of gold (\$55,715,000) exceeded that of coal (\$41,178,000) and for some time coal will probably remain in second place. Canada's reserves of this fuel are known to be very great. The other leading non-metallic minerals were natural gas, asbestos, petroleum, gypsum and salt. Others that were produced to the annual value of between \$200,000 and \$500,000 each in 1930 were quartz, magnesite, sulphur, sodium sulphate and fluor spar. In quantity of asbestos produced Canada leads the world, all of the product being from Quebec. Natural gas is produced in Alberta and Ontario and to a small extent in New Brunswick. The decline in the production of petroleum in Ontario has been offset by increased output in Alberta.

The value of the metallic minerals was in 1930 nearly double that of the non-metallic minerals. Those amounting to more than \$1,000,000 per annum were gold, copper, nickel, lead, silver, zinc, platinum and cobalt. The value of the metallic minerals amounted in 1930 to \$43,453,601. Canada has now definitely taken second place among gold-producing countries. Lead and zinc mining has made a rapid growth

recent years. Ontario meets about 90 p.c. of the world's requirements in nickel, has reserves to last for centuries. Platinum and palladium are recovered in process of refining the copper-nickel ores. Ontario, British Columbia, and Quebec are the main copper-producing provinces; in Manitoba large bodies of per-zinc sulphides are being developed. The total mineral production for 1930 amounted to \$279,873,578, while the 1931 production is provisionally estimated at 7,456,000, prices having fallen considerably in the past year.

Water Powers.—Canada's water area of 180,035 square miles, distributed as throughout all parts of the country, provides a large amount of potential electric energy. It is estimated that 20,347,400 h.p. are available at a minimum yearly flow, \$33,617,200 at ordinary six-months flow and that a turbine installation of 100,000 h.p. is possible. The installation at Jan. 1st, 1932, was 6,666,337 h.p., which represents only about 15.5 p.c. of the possible installation. Perhaps the latest use to which these resources have yet been put has been in the pulp and paper industry, and to a lesser degree in the mining, the electro-chemical, the electro-allurgical and the flour-milling industries. The water power utilized in the pulp and paper industry alone amounted on Dec. 31, 1931, to 600,996 h.p. Over 94 p.c. of power available is in Quebec, Ontario, Manitoba and British Columbia; Quebec has 8,459,000 h.p. available at ordinary minimum flow, has the largest resources in the Dominion.

Game and Scenery.—Canada's resources as a country for the sportsman and tourist are both unique and varied. With the increasing growth of tourist travel and its demands, great areas of uninhabited land have become accessible, and hitherto almost unknown parts may now be reached and traversed with ease. The coasts of Nova Scotia and New Brunswick, the broken lake country of northern Ontario and Quebec, as well as the mountain districts of British Columbia, offer to the tourist and the fisherman new types of scenic effects and innumerable game reserves, and have won for the Dominion a reputation as a paradise for sportsmen and campers. And not only is this possible for those who travel by land; the series of lakes and rivers which form a network over the eastern part of the country particularly, has made water travel in smaller craft both feasible and attractive. Further, facilities for winter sports, the unusual attractions of winter scenery and the bracingly rigorous winter climate, have done much to add to the reputations of resorts formerly noted for their advantages in the summer season.

The Dominion Government maintains, as the medium through which some of the most outstanding natural beauties of the country may be preserved and popularized, the National Parks Branch of the Department of the Interior, administering scenic parks set aside for this purpose. Under the supervision of this same department are numerous animal reserves and historic sites which have been preserved throughout the country. Several of the provinces also maintain parks for similar purposes; among these the Algonquin park (2,741 square miles) in Ontario and the Montserrat park (3,565 square miles) in Quebec are the most important. In both Dominion and provincial parks, the hunting of game is forbidden, and the wild-life resources preserved. Elsewhere, however, there is available for the hunter and sportsman, at proper seasons, a wealth of game species. The deer and moose of Eastern Canada, the bear and mountain sheep of the Rockies, game animals, birds and fishes of unusual variety, have given the Dominion exceptional advantages for this means of recreation.

A list of the Dominion national parks and reserves is given in Table 8.

8.—Canadian National Parks and Reserves, 1932.

Park.	Location.	Date of Establish- ment.	Area sq. miles
Scenic Parks.			
Banff National Park.....	Alberta, east slope of Rockies.....	1885	2,580
Yoho Park.....	British Columbia, west slope of Rockies.....	1886	50
Glacier Park.....	British Columbia, summit of Selkirks...	1886	35
Revelstoke Park.....	British Columbia.....	1914	10
Kootenay Park.....	British Columbia.....	1920	55
Jasper Park.....	Northern Alberta.....	1907	4,200
Waterton Lakes Park.....	Southern Alberta, adjoining U.S. Glacier Park.....	1895	22
St. Lawrence Islands.....	Ontario.....	1904	(180-8 acres)
Pt. Pelee Park.....	Ontario, on lake Erie.....	1918	
Georgian Bay Islands Park.....	Ontario.....	1929	
Riding Mountain Park.....	Manitoba.....	1929	1,140
Prince Albert Park.....	Saskatchewan.....	1927	1,800
Tar Sand Reserve ^{1 2}	Alberta.....	1926	(2,068-22 acres)
Animal Parks and Reserves.			
Buffalo Park.....	Near Wainwright, Alberta.....	1908	17
Elk Island Park.....	Near Lamont, Alberta.....	1911	
Nemiskam (Antelope).....	Alberta.....	1922	
Wawaskesy (Antelope).....	Alberta.....	1922	
Wood Buffalo Park ²	Alberta and N.W.T.....	1922	17,300
Historic Parks.			
Fort Anne.....	Annapolis Royal, Nova Scotia.....	1917	(31 acres)
Fort Beausejour.....	New Brunswick.....	1926	(59 acres)

¹ Reserved by order in council and became a Dominion reserve by agreement with the province of Alberta in 1931. ² Administered by the Dominion Lands Administration of the Department of the Interior.

PART VII.—CLIMATE AND METEOROLOGY.

Section 1.—The Climate of Canada.

An article on this subject by Sir Frederic Stupart, Director of the Dominion Meteorological Service, Toronto, appeared in the 1929 edition of the Year Book pp. 42-51.

Section 2.—The Factors which Control Canadian Weather.

Under the above heading, Sir Frederick Stupart, Director of the Dominion Meteorological Service, Toronto, contributed an article which appeared at pp. 26-31 of the 1924 edition of the Year Book, also at pp. 36-40 of the 1925 edition.

Section 3.—The Distribution of Precipitation in Canada.

An article on "The Distribution of Precipitation in Canada," contributed by A. J. Connor, Climatologist, Dominion Meteorological Office, Toronto, appeared at pp. 42-46 of the 1926 edition of the Year Book.

Section 4.—The Temperature and Precipitation of Northern Canada.

An article on the climate of northern Canada, accompanied by meteorological tables showing the normal temperature and precipitation at selected northern stations, was contributed by A. J. Connor, of the Meteorological Service of the Department of Marine, Toronto, to the 1930 edition of the Year Book, where it will be found at pp. 41-56.

Section 5.—The Meteorological Service of Canada.

Under the above heading Sir Frederick Stupart contributed a short article descriptive of the growth and present activities of the Meteorological Service, to the 1922-23 edition of the Year Book (pp. 43-47); to it the interested reader is referred.

Section 6.—Meteorological Tables.

Tables showing the normal temperature and precipitation at selected Canadian stations in each of the provinces, together with the recorded extremes, also the averages of sunshine, wind and weather at such stations, will be found at pp. 51-63 inclusive of the 1927-28 edition of the Year Book. The 1931 edition of the Year Book contains at pp. 48-76 additional and more comprehensive tables, contributed by A. J. Connor, of monthly average temperatures and precipitation throughout Canada, as well as of normal snowfall and duration of bright sunshine.

CHAPTER II.—HISTORY AND CHRONOLOGY.

PART I.—HISTORY.

In the 1922-23 edition of the Canada Year Book, pp. 60-80, will be found an outline of the history of Canada, not reprinted here for lack of space.

A select bibliography of historical works relating to Canada was contributed by the late Adam Shortt, C.M.G., LL.D., F.R.S.C., Chairman of the Historical Documents Publication Board, Ottawa, to the 1925 edition of the Canada Year Book, where it appears on pp. 53-55.

PART II.—CHRONOLOGY, 1497 TO 1931.

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| 1497. June 24, Eastern coast of North America discovered by John Cabot. | 1622. Lake Superior discovered by Brulé. |
| 1498. Cabot discovers Hudson strait. | 1623. First British settlement of Nova Scotia. |
| 1501. Gaspar Corte Real visits Newfoundland and Labrador. | 1627. New France and Acadia granted to the Company of 100 Associates. |
| 1524. Verrazano explores the coast of Nova Scotia. | 1628. Port Royal taken by Sir David Kirke. |
| 1534. June 21, Landing of Jacques Cartier at Esquimaux bay. | 1629. April 24, Treaty of Susa between France and England. July 20, Quebec taken by Sir David Kirke. |
| 1535. Cartier's second voyage. He ascends the St. Lawrence to Stadacona (Quebec), (Sept. 14) and Hochelaga (Montreal), (Oct. 2). | 1632. Mar. 29, Canada and Acadia restored to France by the Treaty of St. Germain-en-Laye. |
| 1541. Cartier's third voyage. | 1633. May 23, Champlain made first Governor of New France. |
| 1542-3. De Roberval and his party winter at cape Rouge, and are rescued by Cartier on his fourth voyage. | 1634. July 4, Founding of Three Rivers. |
| 1557. Sept. 1, Death of Cartier at St. Malo, France. | 1634-35. Exploration of the Great Lakes by Nicolet. |
| 1592. Straits of Juan de Fuca discovered by de Fuca. | 1635. Dec. 25, Death of Champlain at Quebec. |
| 1603. June 22, Champlain's first landing in Canada, at Quebec. | 1638. June 11, First recorded earthquake in Canada. |
| 1605. Founding of Port Royal (Annapolis, N.S.). | 1640. Discovery of lake Erie by Champlain and Brébeuf. |
| 1608. Champlain's second visit. July 3, Founding of Quebec. | 1641. Resident population of New France, 240. |
| 1609. July, Champlain discovers lake Champlain. | 1642. May 17, Founding of Ville-Marie (Montreal). |
| 1610-11. Hudson explores Hudson bay and James bay. | 1646. Exploration of the Saguenay by Dablon. |
| 1611. Brulé ascends the Ottawa river. | 1647. Lake St. John discovered by de Quen. |
| 1612. Oct. 15, Champlain made Lieutenant-General of new France. | 1648. Mar. 5, Council of New France created. |
| 1613. June, Champlain ascends the Ottawa river. | 1649. Mar. 16-17, Murder of Fathers Brébeuf and Lalement by Indians. |
| 1615. Champlain explores lakes Nipissing, Huron and Ontario (discovered by Brulé and Le Caron). | 1654. Aug., Acadia taken by an expedition from New England. |
| 1616. First schools opened at Three Rivers and Tadoussac. | 1655. Nov. 3, Acadia restored to France by the Treaty of Westminster. |
| 1620. Population of Quebec, 60 persons. | 1659. June 16, François de Laval arrives in Canada as Vicar-Apostolic. |
| 1621. Code of laws issued and register of births, deaths and marriages opened in Quebec. Nova Scotia granted to Sir William Alexander by King James I. | 1660. May 21, Dollard des Ormeaux and sixteen companions killed at the Long Sault, Ottawa river. |

663. Company of 100 Associates dissolved. Feb. 5, Severe earthquake. April, Sovereign Council of New France established. Population of New France, 2,500, of whom 800 were in Quebec.
664. May, Company of the West Indies founded.
665. Mar. 23, Talon appointed Intendant.
666. Feb.-Mar. First census. Population of New France, 3,215.
667. July 21, Acadia restored to France by the Treaty of Breda. Sept.-Oct., Second census; white population of New France, 3,918.
668. Mission at Sault Ste. Marie founded by Marquette.
670. May 13, Charter of the Hudson's Bay Company granted.
671. Population of Acadia, 441.
672. Population of New France, 6,705. April 6, Comte de Frontenac, Governor.
673. June 13, Cataraqui (Kingston) founded.
674. Oct. 1, Laval becomes first Bishop of Quebec.
675. Population of New France, 7,832.
678. Niagara Falls visited by Hennepin.
679. Ship *Le Griffon* built on Niagara river above the falls by La Salle. Third census; population of New France, 9,400; of Acadia, 515.
681. Fourth census; population of New France, 9,677.
682. Frontenac recalled.
683. Population of New France, 10,251.
685. First issue of card money. Fifth census; population of New France, 12,263, including 1,538 settled Indians.
686. Population of New France, 12,373; of Acadia, 885.
687. Mar. 18, La Salle assassinated.
688. Sixth census; population of New France, 11,562, including 1,259 settled Indians.
689. June 7, Frontenac re-appointed Governor. Aug. 5, Massacre of whites by Indians at Lachine.
690. May 21, Sir William Phips captures Port Royal, but is repulsed in an attack on Quebec (Oct. 16-21).
692. Seventh census; population of New France, 12,431. Oct. 22, Defence of Verchères against Indians by Madeleine de Verchères.
1693. Population of Acadia, 1,009.
1695. Eighth census; population of New France, 13,639, including 853 settled Indians.
1697. Sept. 20, By the Treaty of Ryswick, places taken during the war were mutually restored. D'Iberville defeats the Hudson's Bay Co.'s ships on Hudson bay.
1698. Nov. 28, Death of Frontenac. Ninth census; population of New France, 15,355.
1701. La Motte Cadillac builds a fort at Detroit.
1703. June 16, Sovereign Council of Canada becomes Superior Council and membership increased from 7 to 12.
1706. Tenth census; population of New France, 16,417.
1709. British invasion of Canada.
1710. Oct. 13, Port Royal taken by Nicholson.
1711. Sept. 1, Part of Sir H. Walker's fleet, proceeding against Quebec, wrecked off the Seven Islands.
1713. April 11, Treaty of Utrecht; Hudson bay, Acadia and Newfoundland ceded to Great Britain. Aug., Louisbourg founded by the French. Population of New France, 18,119.
1719. Census population of New France, 22,530.
1720. Population of New France, 24,234; of Isle St. Jean (P.E.I.), about 100. April 25, Governor and Council of Nova Scotia appointed.
1721. June 19, Burning of about one-half of Montreal. Census population of New France, 24,951.
1727. Population of New France, 30,613.
1728. Population of Isle St. Jean (P.E.I.), 330.
1731. Population of the north of the peninsula of Acadia, 6,000.
1734. Road opened from Quebec to Montreal. Census population of New France, 37,716.
1737. Iron smelted on St. Maurice. French population of the north of the Acadia peninsula, 7,598.
1739. Census population of New France, 42,701.
1743. De la Vérendrye discovers the Rocky mountains.
1745. June 17, Taking of Louisbourg by Pepperell and Warren.

1748. Oct. 18, Treaty of Aix-la-Chapelle. Louisbourg restored to France in exchange for Madras.
1749. June 21, Founding of Halifax—British immigrants brought to Nova Scotia by Governor Cornwallis, 2,544 persons. Fort Rouillé (Toronto) built.
1750. St. Paul's church, Halifax (oldest Anglican church in Canada), built.
1752. Mar. 25, Issue of the Halifax "Gazette", first paper in Canada. British and German population of Nova Scotia, 4,203.
1754. Census population of New France, 55,009.
1755. June 16, Surrender of Fort Beauséjour on the isthmus of Chignecto to the British. Sept. 10, Expulsion of the Acadians from Nova Scotia.
1756. Seven Years' War between Great Britain and France begins.
1758. July 26, Final capture of Louisbourg by the British. Oct. 7, First meeting of the Legislature of Nova Scotia.
1759. July 25, Taking of Fort Niagara by the British. July 26, Beginning of the siege of Quebec. July 31, French victory at Beauport Flats. Sept. 13, Defeat of the French on the Plains of Abraham. Death of Wolfe. Sept. 14, Death of Montcalm. Sept. 18, Surrender of Quebec.
1760. April 28, Victory of the French under Lévis at Ste. Foy. Sept. 8, Surrender of Montreal. Military rule set up in Canada.
1762. British population of Nova Scotia, 8,104. First British settlement in New Brunswick.
1763. Feb. 10, Treaty of Paris, by which Canada and its dependencies are ceded to the British. May, Rising of Indians under Pontiac, who take a number of forts and defeat the British at Bloody Run (July 31). Oct. 7, Civil government proclaimed. Cape Breton and Isle St. Jean annexed to Nova Scotia; Labrador, Anticosti and Magdalen islands to Newfoundland. Nov. 21, General James Murray appointed Governor in Chief. First Canadian post offices established at Montreal, Three Rivers and Quebec.
1764. June 21, First issue of the Quebec "Gazette". Aug. 13, Civil government established.
1765. Publication of the first book printed in Canada, "Catéchisme du Diocèse de Sens". May 18, Montreal nearly destroyed by fire. Population of Canada, 69,810.
1766. July 24, Peace made with Pontiac at Oswego.
1768. Charlottetown, P.E.I., founded. April 11, Great fire at Montreal. April 12, Sir Guy Carleton (Lord Dorchester) Governor in Chief.
1769. Isle St. Jean (Prince Edward Island) separated from Nova Scotia.
- 1770-72. Hearne's journey to the Coppermine and Slave rivers and Great Slave lake.
1773. Suppression of the order of Jesuits in Canada and escheat of their estates.
1774. June 22, The Quebec Act passed.
1775. May 1, The Quebec Act comes into force. Outbreak of the American Revolution. Montgomery and Arnold invade Canada. Nov. 12, Montgomery takes Montreal; Dec. 31, he is defeated and killed in an attack on Quebec.
1776. The Americans are defeated and driven from Canada by Carleton.
1777. Sept. 18, General Frederick Haldimand Governor in Chief.
1778. Captain Jas. Cook explores Nootka sound and claims the northwest coast of America for Great Britain. June 3, First issue of the Montreal "Gazette".
1783. Sept. 3, Treaty of Versailles recognizing the independence of the United States. Organization of the Northwest Company at Montreal. Kingston, Ont., and Saint John, N.B., founded by the United Empire Loyalists.
1784. Population of Canada, 113,012. Aug. 16, New Brunswick and (Aug. 26) Cape Breton separated from Nova Scotia.

785. May 18, Incorporation of Parrtown (Saint John, N.B.).
786. April 22, Lord Dorchester again Governor in Chief. Oct. 23, Government of New Brunswick moved from Saint John to Fredericton.
787. C. Inglis appointed Anglican Bishop of Nova Scotia—the first colonial bishopric in the British Empire.
788. King's College, Windsor, N.S., opened. Sailing packet service established between Great Britain and Halifax.
789. Quebec and Halifax Agricultural Societies established.
790. Spain surrenders her exclusive rights on the Pacific coast. Population of Canada, 161,311. (This census does not include what becomes in the next year Upper Canada).
791. The Constitutional Act divides the province of Quebec into Upper and Lower Canada, each with a lieutenant-governor and legislature. The Act goes into force Dec. 26. Sept. 12, Colonel J. G. Simcoe, first Lieutenant-Governor of Upper Canada.
792. Sept. 17, First Legislature of Upper Canada opened at Newark (Niagara). Dec. 17, First Legislature of Lower Canada opened at Quebec. Vancouver island circumnavigated by Vancouver.
793. April 18, First issue of the "Upper Canada Gazette". June 28, Jacob Mountain appointed first Anglican Bishop of Quebec. July 9, Importation of slaves into Upper Canada forbidden. Rocky mountains crossed by (Sir) Alexander Mackenzie, who reaches the Pacific ocean. York (Toronto) founded by Simcoe.
794. Nov. 19, Jay's Treaty between Great Britain and the United States.
795. Pacific coast of Canada finally given up by the Spaniards.
796. Government of Upper Canada moved from Niagara to York (Toronto).
798. St. John's island (Isle St. Jean, population 4,500) re-named Prince Edward island.
1800. Founding of New Brunswick College, Fredericton (now University of N.B.). The Rocky mountains crossed by David Thompson.
1803. Settlers sent by Lord Selkirk to Prince Edward Island.
1806. Nov. 22, Issue of "Le Canadien"—first wholly French newspaper. Population—Upper Canada, 70,718; Lower Canada, 250,000; New Brunswick, 35,000; P.E.I., 9,676.
1807. Simon Fraser explores the Fraser river. Estimated population of Nova Scotia, 65,000.
1809. Nov. 4, First Canadian steamer runs from Montreal to Quebec.
1811. Lord Selkirk's Red River settlement founded on land granted by Hudson's Bay Company.
1812. June 18, Declaration of war by the United States. July 12, Americans under Hull cross the Detroit river. Aug. 16, Detroit surrendered by Hull to Brock. Oct. 13, Defeat of the Americans at Queenston Heights and death of Gen. Brock.
1813. Jan. 22, British victory at Frenchtown. April 27, York (Toronto) taken and burned by the Americans. June 5, British victory at Stoney Creek. June 24, British, warned by Laura Secord, capture an American force at Beaver Dams. Sept. 10, Commodore Perry destroys the British flotilla on lake Erie. Oct. 5, Americans under Harrison defeat the British at Moraviantown. Tecumseh killed. Oct. 26, Victory of French-Canadian troops under de Salaberry at Chateauguay. Nov. 11, Defeat of the Americans at Crysler's Farm. British storm Fort Niagara and burn Buffalo.
1814. Mar. 30, Americans repulsed at La Colle. May 6, Capture of Oswego by the British. July 5, American victory at Chippawa. July 25, British victory at Lundy's Lane. July, British from Nova Scotia invade and occupy northern Maine. Sept. 11, British defeat at Plattsburg on lake Champlain. Dec. 24, Treaty of Ghent ends the war. Population — Upper Canada, 95,000; Lower Canada, 335,000

1815. July 3, Treaty of London regulates trade with the United States. The Red River settlement destroyed by the Northwest Company but restored by Governor Semple.
1816. June 19, Governor Semple killed. The Red River settlement again destroyed.
1817. July 18, First treaty with the Northwest Indians. Lord Selkirk restores the Red River settlement. Opening of the Bank of Montreal; first note issued Oct. 1. Population of Nova Scotia, 81,351. Rush-Bagot convention with the United States, limiting naval armament on the Great Lakes, is signed.
1818. Oct. 20, Convention at London regulating North American fisheries. Dalhousie College, Halifax, founded. Bank of Quebec founded.
- 1819-22. Franklin's overland Arctic expedition.
1820. Oct. 16, Cape Breton re-annexed to Nova Scotia.
1821. Mar. 26, The Northwest Company absorbed by the Hudson's Bay Company. Charter given to McGill College.
1822. Population of Lower Canada, 427,465.
1824. Population of Upper Canada, 150,066; of New Brunswick, 74,176.
1825. Oct. 6, Great fire in the Miramichi district, N.B. Opening of the Lachine canal. Population of Lower Canada, 479,288.
1826. Founding of Bytown (Ottawa).
1827. Sept. 29, Convention of London relating to the territory west of the Rocky mountains. Population of Nova Scotia, including Cape Breton, 123,630.
1828. The Methodist Church of Upper Canada separated from that of the United States.
1829. Nov. 27, First Welland canal opened. McGill University opened. Upper Canada College founded.
1831. June 1, The North Magnetic Pole discovered by (Sir) James Ross. Population—Upper Canada, 236,702; Lower Canada, 553,131; Assiniboia, 2,390.
1832. Outbreak of cholera in Canada. Incorporation of Quebec and Montreal. Bank of Nova Scotia founded. May 30, Opening of the Rideau canal.
1833. Aug. 18, The steamer *Royal William*, built at Quebec, crosses the Atlantic from Pictou to England.
1834. Feb. 21, The Ninety-two Resolutions on public grievances passed by the Assembly of Lower Canada. Mar. 6, Incorporation of Toronto. Population of Upper Canada, 321,145; of New Brunswick, 119,457; of Assiniboia, 3,356.
1836. July 21, Opening of the first railway in Canada from Laprairie to St. John's, Que. Victoria University opened at Cobourg (afterwards moved to Toronto).
1837. Report of the Canada Commissioners. Rebellion in Lower Canada (Papineau) and Upper Canada (W. L. Mackenzie). Nov. 23, Gas lighting first used in Montreal.
1838. Feb. 10, Constitution of Lower Canada suspended and Special Council created. Mar. 30, The Earl of Durham Governor in Chief. April 27, Martial law revoked. June 28, Amnesty to political prisoners proclaimed. Nov. 1, Lord Durham, censured by British Parliament, resigns. Population—Upper Canada, 339,442; Assiniboia, 3,966; Nova Scotia, 202,575.
1839. Feb. 11, Lord Durham's report submitted to Parliament. John Strachan made first Anglican Bishop of Toronto.
1840. July 23, Passing of the Act of Union. First ship of the Cunard line arrives at Halifax. July 28, Death of Lord Durham.
1841. Feb. 10, Union of the two provinces as the province of Canada with Kingston as capital. Feb. 13, Draper-Ogden administration. April 10, Halifax incorporated. June 13, Meeting of the first United Parliament. Sept. 19, Death of Lord Sydenham. Population of Upper Canada, 455,668; of P.E.I., 47,042.

842. Mar. 10, Opening of Queen's University, Kingston. Aug. 9, The Ashburton Treaty. Sept. 16, Baldwin-Lafontaine administration.
843. June 4, Victoria, B.C., founded. Dec. 12, Draper-Viger administration. King's (now University) College, Toronto, opened.
844. May 10, Capital moved from Kingston to Montreal. Knox College, Toronto, founded. Population of Lower Canada, 697,084.
845. May 28 and June 28, Great fires at Quebec. Franklin starts on his last Arctic expedition.
846. May 18, Kingston incorporated. June 15, Oregon Boundary Treaty. June 18, Draper-Papineau administration. First telegraph line, operated by the Toronto, Hamilton, Niagara and St. Catharines Telegraph Co., opened.
847. May 29, Sherwood-Papineau administration. Nov. 25, Montreal-Lachine Railway opened.
848. Mar. 11, Lafontaine-Baldwin administration. May 30, Fredericton incorporated. Responsible government granted to Nova Scotia and New Brunswick.
849. April 25, Signing of the Rebellion Losses Act; rioting in Montreal and burning of the Parliament buildings. Nov. 14, Toronto made the capital. Vancouver island granted to the Hudson's Bay Company. Population of Assiniboia, 5,391.
851. April 6, Transfer of the postal system from the British to the Provincial Government; uniform rate of postage introduced. April 23, Postage stamps issued. Aug. 2, Incorporation of Trinity College, Toronto. Sept. 22, Quebec becomes the capital. Oct. 28, Hincks-Morin administration. Responsible government granted to Prince Edward Island. Population — Upper Canada, 952,004; Lower Canada, 890,261; New Brunswick, 193,800; Nova Scotia, 276,854.
852. July 8, Great fire at Montreal. Dec. 8, Laval University, Quebec, opened. The Grand Trunk Railway chartered.
1854. June 5, Reciprocity Treaty with the United States. Sept. 11, MacNab-Morin Ministry. Seigneurial tenure in Lower Canada abolished. Secularization of the clergy reserves.
1855. Jan. 1, Incorporation of Ottawa. Jan. 27, MacNab-Taché administration. Mar. 9, Opening of the Niagara Railway suspension bridge. April 17, Incorporation of Charlottetown. Oct. 20, Government moved to Toronto.
1856. The Legislative Council of Canada is made elective. First meeting of the Legislature of Vancouver island. May 24, Taché-J. A. Macdonald administration. Oct. 27, Opening of the Grand Trunk Railway from Montreal to Toronto. Population of Assiniboia, 6,691.
1857. Nov. 26, J. A. Macdonald-Cartier administration. Dec. 31, Ottawa chosen by Queen Victoria as future capital of Canada.
1858. Feb., Discovery of gold in Fraser River valley. July 1, Introduction of Canadian decimal currency. Aug. 2, Brown-Dorion administration. Aug. 5, Completion of the Atlantic cable; first message sent. Aug. 6, Cartier-J. A. Macdonald administration. Aug. 20, Colony of British Columbia established. Control of Vancouver island surrendered by the Hudson's Bay Company.
1859. Jan., Canadian silver coinage issued. Sept. 24, Government moved to Quebec.
1860. Aug. 8, The Prince of Wales (King Edward VII) arrives at Quebec. Sept. 1, Laying of the corner stone of the Parliament buildings at Ottawa by the Prince of Wales. Prince of Wales College, Charlottetown, founded.
1861. Aug. 14, Great flood at Montreal. Sept. 10, Meeting of the first Anglican provincial synod. Population — Upper Canada, 1,396,091; Lower Canada, 1,111,566; New Brunswick, 252,047; Nova Scotia, 330,857; Prince Edward Island, 80,857.
1862. May 24, Sandfield Macdonald-Sicotte administration. Aug. 2, Victoria, B.C., incorporated.

1863. May 16, Sandfield Macdonald-Dorion administration.
1864. Mar. 30, Taché-J. A. Macdonald administration. Conferences on confederation of British North America; Sept. 1, at Charlotte-town; Oct. 10-29, at Quebec. Oct. 19, Raid of American Confederates from Canada on St. Albans, Vermont.
1865. Feb. 3, The Canadian Legislature resolves on an address to the Queen praying for union of the provinces of British North America. Aug. 7, Belleau-J. A. Macdonald administration. Oct. 20, Proclamation fixing the seat of government at Ottawa.
1866. Mar. 17, Termination of the Reciprocity Treaty by the United States. May 31, Raid of Fenians from the United States into Canada; they are defeated at Ridgeway (June 2) and retreat across the border (June 3). June 8, First meeting at Ottawa of the Canadian Legislature. Nov. 17, Proclamation of the union of Vancouver island with British Columbia.
1867. Mar. 29, Royal assent given to the British North America Act. July 1, The Act comes into force; Union of the provinces of Canada, Nova Scotia and New Brunswick as the Dominion of Canada; Upper and Lower Canada made separate provinces as Ontario and Quebec; Viscount Monck first Governor General, Sir John A. Macdonald Premier. Nov. 6, Meeting of the first Dominion Parliament.
1868. April 7, Murder of D'Arcy McGee at Ottawa. July 31, The Rupert's Land Act authorizes the acquisition by the Dominion of the Northwest Territories.
1869. June 22, Act providing for the government of the Northwest Territories. Nov. 19, Deed of surrender to the Crown of the Hudson's Bay Company's territorial rights in the Northwest. Outbreak of the Red River Rebellion under Riel.
1870. May 12, Act to establish the province of Manitoba. July 15, Northwest Territories transferred to the Dominion and Manitoba admitted into Confederation. Sept. 24, Wolsey's expedition reaches Fort Garry (Winnipeg); end of the rebellion.
1871. April 2, First Dominion census (populations at this and succeeding enumerations given on p. 91). April 14, Act establishing uniform currency for the Dominion. May 8, Treaty of Washington, dealing with questions outstanding between the United Kingdom and the United States. July 20, British Columbia enters Confederation.
1873. Mar. 5, Opening of the second Dominion Parliament. May 22, Act establishing the Northwest Mounted Police. July 1, Prince Edward Island enters Confederation. Nov. 7, Alexander Mackenzie becomes Prime Minister. Nov. 8, Incorporation of Winnipeg.
1874. Mar. 26, Opening of the third Dominion Parliament. May, Ontario Agricultural College, Guelph, opened.
1875. April 8, The Northwest Territories Act establishes a Lieutenant-Governor and Council of the Northwest Territories. April-May, Letting of first contract and commencement of work upon the Canadian Pacific Railway as a Government line. Work commenced at Fort William. June 15, Formation of the Presbyterian Church in Canada.
1876. June 1, Opening of the Royal Military College, Kingston. June 5, First sitting of the Supreme Court of Canada. July 3, Opening of the Intercolonial Railway from Lévis to Halifax.
1877. June 20, Great fire at St. John, N.B. Oct., First exportation of wheat from Manitoba to the United Kingdom. Founding of the University of Manitoba.
1878. July 1, Canada joins the International Postal Union. Oct. 17, Sir John A. Macdonald becomes Prime Minister.
1879. Feb. 13, Opening of the fourth Dominion Parliament. May 1, Adoption of a protective tariff ("The National Policy").

880. Royal Canadian Academy of Arts founded; first meeting and exhibition, Mar. 6. May 11, Sir A. T. Galt appointed first Canadian High Commissioner in London. Sept. 1, All British possessions in North America and adjacent islands, except Newfoundland and its dependencies, annexed to Canada by Imperial Order in Council of July 31. Oct. 21, Signing of the contract with the present Canadian Pacific Railway Co. for the completion of the Canadian Pacific Railway.
881. April 4, Second Dominion census. May 2, First sod turned of the Canadian Pacific Railway as a company line.
882. May 8, Provisional Districts of Assiniboia, Saskatchewan, Athabaska and Alberta formed. May 25, First meeting of the Royal Society of Canada. Aug. 23, Regina established as seat of government of Northwest Territories.
883. Feb. 1, Opening of the fifth Dominion Parliament. Sept. 5, Formation of the Methodist Church in Canada; united conference.
884. May 24, Sir Charles Tupper High Commissioner in London. Aug. 11, Order in Council settling the boundary of Ontario and Manitoba.
885. Mar. 26, Outbreak of Riel's second rebellion in the Northwest. April 24, Engagement at Fish Creek. May 2, Engagement at Cut Knife. May 12, Taking of Batoche. May 16, Surrender of Riel. Aug. 24, First census of the Northwest Territories. Nov. 16, Execution of Riel.
886. April 6, Incorporation of Vancouver. June 7, Archbishop Taschereau of Quebec made first Canadian Cardinal. June 13, Vancouver destroyed by fire. June 28, First through train of the Canadian Pacific Railway from Montreal to Vancouver. July 31, First quinquennial census of Manitoba.
887. Interprovincial Conference at Quebec. April 4, First Colonial Conference in London. April 13, Opening of the sixth Dominion Parliament.
1888. Feb. 15, Signing of Fishery Treaty between United Kingdom and United States at Washington. Aug., Rejection of Fishery Treaty by United States Senate.
1890. Mar. 31, The Manitoba School Act abolishes separate schools.
1891. April 5, Third Dominion census. April 29, Opening of the seventh Dominion Parliament. June 6, Death of Sir John A. Macdonald. June 15, Sir John Abbott becomes Prime Minister.
1892. Feb. 29, Washington Treaty, providing for arbitration of the Behring Sea Seal Fisheries question. July 22, Boundary convention between Canada and United States. Nov. 25, Sir John Thompson becomes Prime Minister.
1893. April 4, First sitting of the Behring Sea Arbitration Court. Dec. 18, Archbishop Machray, of Rupert's Land, elected first Anglican Primate of all Canada.
1894. June 28, Second Colonial Conference at Ottawa. Dec. 12, Death of Sir John Thompson at Windsor Castle. Dec. 21, (Sir) Mackenzie Bowell becomes Prime Minister.
1895. Sept. 10, Opening of new Sault Ste. Marie canal. Oct. 2, Proclamation naming the Ungava, Franklin, Mackenzie and Yukon Districts of Northwest Territories.
1896. April 24, Sir Donald Smith (Lord Strathcona) High Commissioner in London. April 27, Sir Charles Tupper becomes Prime Minister. July 11, (Sir) Wilfrid Laurier becomes Prime Minister. Aug., Gold discovered in the Klondyke. Aug. 19, Opening of the eighth Dominion Parliament.
1897. July, Third Colonial Conference in London. Dec. 17, Award of the Behring Sea Arbitration Court.
1898. June 13, The Yukon district established as a separate territory. Aug. 1, The British Preferential Tariff goes into force. Aug. 23, Meeting at

- Quebec of the Joint High Commission between Canada and the United States. Dec. 25, British Imperial penny (2 cent) postage introduced.
1899. Oct. 1, Mgr. Diomède Falconio arrived at Quebec as first permanent Apostolic Delegate to Canada. Oct. 11, Beginning of the South African war. Oct. 29, First Canadian contingent leaves Quebec for South Africa.
1900. Feb. 27, Battle of Paardeberg. April 26, Great fire at Ottawa and Hull.
1901. Jan. 22, Death of Queen Victoria and accession of King Edward VII. Feb. 6, Opening of the ninth Dominion Parliament. April 1, Fourth Dominion census. Sept. 16-Oct. 21, Visit to Canada of the Duke and Duchess of Cornwall and York (King George V and Queen Mary).
1902. May 31, End of South African War; peace signed at Vereeniging. June 30, Meeting of fourth Colonial Conference in London.
1903. Jan. 24, Signing of the Alaskan Boundary Convention. June 19, Incorporation of Regina. Oct. 20, Award of the Alaskan Boundary Commission.
1904. Feb. 1, Dominion Railway Commission established. April 19, Great fire in Toronto. Oct. 8, Incorporation of Edmonton.
1905. Jan. 11, Opening of the tenth Dominion Parliament. Sept. 1, Creation of the provinces of Alberta and Saskatchewan.
1906. University of Alberta founded. Oct. 8, Interprovincial Conference at Ottawa.
1907. April 15-May 14, Fifth Colonial Conference in London. New customs tariff, including introduction of intermediate tariff. Sept. 19, New commercial convention with France signed at Paris. Oct. 17, First message by wireless telegraphy between Canada and the United Kingdom. University of Saskatchewan founded.
1908. Jan. 2, Establishment of Ottawa branch of Royal Mint. June 21-23, Bicentenary of Bishop Laval celebrated at Quebec. July 20-31, Quebec tercentenary celebrations; visit of Prince of Wales to Quebec. Aug. 2, Great fire in Kootenay Valley, B.C. University of British Columbia founded.
1909. Jan. 11, Signing of International Boundary Waters Convention between Canada and United States. Jan. 20, Opening of 11th Dominion Parliament. May 19, Appointment of Canadian Commission of Conservation. July 28, Conference on Imperial defence in London.
1910. May 6, Death of King Edward VII and accession of King George V. June 7, Death of Goldwin Smith. Sept. 7, North Atlantic Coast Fisheries Arbitration award of the Hague Tribunal. New trade agreements made with Germany, Belgium, Holland and Italy.
1911. May 23-June 20, Imperial Conference in London. June 1, Fifth Dominion census. July 11, Disastrous fires in Porcupine district. Sept. 21, General election. Oct. 10, (Sir) R. L. Borden, Prime Minister. Oct. 11, Inauguration at Kitchener of Ontario hydro-electric power transmission system. Nov. 15, Opening of twelfth Dominion Parliament.
1912. April 15, Loss of the steamship *Titanic*; Appointment of Dominions Royal Commission. May 15, Extension of the boundaries of Quebec, Ontario and Manitoba.
1913. April 10, Japanese Treaty Assented to. June 2, Trade agreement with West Indies came into force.
1914. May 20, Loss of the steamship *Empress of Ireland*. Aug. 4, War with Germany; Aug. 12, with Austria-Hungary; Nov. 5, with Turkey. Aug. 18-22, Special war session of Canadian Parliament. Oct. 16, First Canadian contingent of over 33,000 troops lands at Plymouth, Eng.
1915. Feb., First Canadian contingent lands in France and proceeds to Flanders. April 22, Second battle of Ypres. April 24, Battle of St. Julien. May 20-26, Battle of Festubert. June 15, Battle of Givenchy.

1916. Jan. 12, Order in Council authorizing increase in number of Canadian troops to 500,000. Feb. 3, Destruction of the Houses of Parliament at Ottawa by fire. April 3-20, Battle of St. Eloi. June 1, Census of Prairie Provinces. June 1-3, Battle of Sanctuary Wood. July 1, Commencement of the battle of the Somme. Sept. 1, Cornerstone of new Houses of Parliament laid by Duke of Connaught.
1917. Feb. 12-May 15, Imperial Conference. Mar. 20-May 2, Meetings in London of Imperial War Cabinet. Mar. 21-April 27, Imperial War Conference. April 6, United States declares war against Germany. April 9, Capture of Vimy Ridge. June 21, Appointment of Food Controller. Aug. 15, Battle of Loos, capture of Hill 70. Aug. 29, Passing of Military Service Act. Sept. 20, Completion of Quebec bridge; Parliamentary franchise extended to women. Oct. 26-Nov. 10, Battle of Passchendaele. Dec. 6, Disastrous explosion at Halifax, N.S. Dec. 17, General election and Union Government sustained.
1918. Mar. 18, Opening of first session of thirteenth Parliament. Mar. 31, Germans launch critical offensive on west front. March-April, Second battle of the Somme. April 17, Secret session of Parliament. June-July, Prime Minister and colleagues attend Imperial War Conference in London. July 18, Allies assume successful offensive on west front. Aug. 12, Battle of Amiens. Aug. 26-28, Capture of Monchy le Preux. Sept. 2-4, Breaking of Drocourt-Quéant line. Sept. 16, Austrian peace note. Sept. 27-29, Capture of Bourlon Wood. Sept. 30, Bulgaria surrenders and signs armistice. Oct. 1-9, Capture of Cambrai. Oct., Serious influenza epidemic. Oct. 6, First German peace note. Oct. 20, Capture of Denain. Oct. 25-Nov. 2, Capture of Valenciennes. Oct. 31, Turkey surrenders and signs armistice. Nov. 4, Austria-Hungary surrenders and signs armistice. Nov. 11, Capture of Mons. Germany surrenders and signs armistice.
1919. Feb. 17, Death of Sir Wilfrid Laurier. Feb. 20-July 7, Second session of thirteenth Parliament. May 1-June 15, General strike at Winnipeg and other western cities. June 28, Signing at Versailles of Peace Treaty and Protocol. Aug. 15, Arrival of the Prince of Wales for official tour in Canada. Aug. 22, Formal opening of Quebec bridge by the Prince of Wales. Sept. 1, the Prince of Wales lays foundation stone of tower of new Parliament Buildings at Ottawa. Sept. 1-Nov. 10, Third or special peace session, thirteenth Parliament of Canada. Dec. 20, Organization of "Canadian National Railways" by Order in Council.
1920. Jan. 10, Ratifications of the Treaty of Versailles. Feb. 19, Shareholders ratify agreement for sale of the Grand Trunk Railway to the Dominion Government. Feb. 26-July 1, Fourth session of the thirteenth Parliament of Canada. May 31-June 18, Trade Conference at Ottawa between Dominion and West Indian Governments. July 10, Sir Robert Borden is succeeded by Rt. Hon. Arthur Meighen as Prime Minister. July 16, Ratifications of the Treaty of St. Germain-en-Laye. Aug. 9, Ratifications of the Treaty of Neuilly-sur-Seine. Nov. 15, First meeting of League of Nations Assembly begins at Geneva, Switzerland.
1921. Feb. 14-June 4, Fifth session of thirteenth Parliament of Canada. May 10, Preferential tariff arrangement with British West Indies becomes effective. June 1, Sixth Dominion census. June 20-Aug. 5, Imperial Conference. Sept. 5-Oct. 5, Second meeting of Assembly of League of Nations at Geneva. Nov. 11, Opening of conference on limitation of armament at Washington. Dec. 6, Dominion general election.

Dec. 29, New Ministry (Liberal), with Right Hon. W. L. Mackenzie King as Prime Minister, is sworn in.

1922. Feb. 1, Arms Conference at Washington approves 5-power treaty, limiting capital fighting ships and pledging against unrestricted submarine warfare and use of poison gas. Mar. 8-June 28, First session of fourteenth Parliament of Canada. April 10, General Economic Conference opened at Genoa. July 13, Conference between Canada and the United States *re* perpetuating the Rush-Bagot treaty regarding armament on the Great Lakes. Aug. 7, Allies' Conference on war debts and reparations opened at London. Sept. 4, Third Assembly of League of Nations opened at Geneva. Oct. 10, Mudania Armistice signed by Britain, France and Turkey. Oct. 14, Fourth International Labour Conference at Geneva. Nov. 20, Turkish Peace Conference opened at Lausanne. Dec. 9, Reparations Conference opened at London. Dec. 15, Signing of trade agreement between Canada and France.

1923. Jan. 4, Signing of trade agreement between Canada and Italy. Jan. 31-June 30, Second session of fourteenth Parliament of Canada. April 1, Removal of British embargo on Canadian cattle effective. Sept. 3, Fourth session of League of Nations at Geneva. Oct. 1, Imperial Conference and Economic Conference at London.

1924. Feb. 28-July 19, Third session of the fourteenth Parliament of Canada. April 23, British Empire Exhibition opened by King George at Wembley, England, with the Prince of Wales as President. July 3, Trade agreement between Canada and Belgium signed at Ottawa. Aug. 6-Aug. 16, Meeting of the British Association for the Advancement of Science at Toronto. Aug. 11-16, Meeting of International Mathematical Congress at Toronto. Sept. 1,

Opening of fifth session of League of Nations at Geneva, Switzerland.

1925. Feb. 5-June 27, Fourth session of fourteenth Parliament of Canada. June 2, Provincial general election in Saskatchewan; Liberal party under Hon. C. J. Dunning returned to office. June 10, Inauguration of the United Church of Canada. June 25, Provincial general election in Nova Scotia; Conservative party under Hon. E. N. Rhodes returned to office. July 6, Signing at Ottawa of trade agreement between Canada and the British West Indies. Aug. 10, Provincial general election in New Brunswick; Conservative party under Hon. J. B. M. Baxter returned to office. Sept. 5, Fourteenth Parliament dissolved. Oct. 23, Dominion general elections. Nov. 20, Death of Queen Alexandra.

1926. Jan. 7-July 1, First session of fifteenth Parliament of Canada. April 15, Budget speech; reductions of income and other taxes announced. June 28, Resignation of Rt. Hon. W. L. Mackenzie King, Prime Minister, and his Cabinet. Provincial general elections in Alberta; United Farmers under Premier Brownlee retain office. June 29, Rt. Hon. Arthur Meighen becomes Prime Minister. July 1, Two-cent domestic rate of postage restored. July 2, Fifteenth Parliament dissolved. July 13, Composition of Mr. Meighen's Cabinet announced (see p. 77 of the 1927-28 Year Book). Sept. 1, Dominion general elections. Sept. 25, Rt. Hon. W. L. Mackenzie King becomes Prime Minister (for composition of Cabinet see p. 69 of Canadian Year Book, 1930). Oct. 19, Nov. 23, Imperial Conference at London. Nov. 26, Hon. C. Vincent Massey is appointed Envoy Extraordinary and Minister Plenipotentiary to the United States. Dec. 1, General election in Ontario; Ferguson Government retains office. Dec. 9, Opening of first session of sixteenth Parliament.

927. Feb. 8-April 14, Continuation of first session of the sixteenth Parliament of Canada. Feb. 17, Budget speech; reductions of income tax, sales tax and stamp tax on cheques announced. May 16, General elections in Quebec; the Liberal Government of Hon. L. A. Taschereau sustained. June 1, Hon. Wm. Phillips, first U. S. Minister to Canada, reaches Ottawa. June 25, General election in Prince Edward Island; the Conservative Government of Hon. J. D. Stewart defeated. June 28, General election in Manitoba; the Government of Hon. John Bracken sustained. July 1-3, Diamond Jubilee of Confederation celebrated throughout the Dominion. July 30, The Prince of Wales, Prince George, the Rt. Hon. Stanley Baldwin and party, arrive at Quebec on a visit to Canada. Sept., Canada elected as a non-permanent member of the Council of the League of Nations at Geneva. Nov., Dominion-Provincial Conference on the relations between the Dominion and the provinces.
928. Jan. 26-June 11, Second session of the sixteenth Parliament of Canada. Jan. 30, President Cosgrave of the Irish Free State visits Ottawa. Feb. 16, Budget speech announces reduction in taxation. April 25, Sir Wm. H. Clark appointed first British High Commissioner to Canada. May 31, Legislative Council of Nova Scotia ceases to exist, leaving Quebec as the only province with a bi-cameral Legislature. July 18, General elections in British Columbia; Conservatives successful. Aug. 24-Oct. 5, Empire Parliamentary Association visits Canada. Oct. 1, General elections in Nova Scotia; Conservatives retain power.
929. Feb. 7-June 14, Third session of the sixteenth Parliament of Canada. Mar. 29, Death of Sir Lomer Gouin. June 5, General election in Saskatchewan. Sept. 9, Dr. J. T. M. Anderson becomes Premier of Saskatchewan. Oct. 15-25, The Rt. Hon. J. Ramsay MacDonald, Prime Minister of Great Britain, visits Canada. Oct. 30, General elections in Ontario; Conservatives retain power. Nov. 11, Death of Hon. Jas. A. Robb, Minister of Finance. Dec. 14, Transfer of natural resources to Manitoba and Alberta.
1930. Jan. 21, Five power naval arms conference opens at London: Canada represented by Hon. J. L. Ralston. Feb. 3, Death of Hon. P. C. Larkin. Feb. 20, Fourth session of the sixteenth Parliament of Canada commences. Transfer of natural resources to British Columbia. Mar. 20, Transfer of natural resources to Saskatchewan. May 30, Dissolution of sixteenth Parliament of Canada. June 19, General elections in Alberta; United Farmers retain power. June 20, General election in New Brunswick; Conservatives retain power. July 28, Dominion General election. Liberal Government of Rt. Hon. W. L. Mackenzie King defeated. Aug. 1, H.M. Airship R-100 arrives at Montreal, being the first transatlantic lighter-than-air craft to reach Canada. Aug. 7, Conservative Government of Hon. R. B. Bennett takes office as the fifteenth Ministry since Confederation (for the names of the Ministers see p. 64). Sept. 8-22, First (special) session of the seventeenth Parliament of Canada. Oct. 1, Imperial Conference in London. Dec. 20, Viscount Willingdon, Governor General of Canada, is appointed Viceroy of India by the King.
1931. Feb. 9, The Earl of Bessborough is appointed Governor General of Canada. Mar. 12-Aug. 3, Second session of the seventeenth Parliament of Canada. June 11, Remembrance Day (Nov. 11) proclaimed a general holiday by Act of Parliament. June 22, The U.S. Government grants a one-year moratorium.

torium on war debts owing by foreign governments on condition that similar treatment is accorded to Germany in regard to reparation payments. June 30, The Statute of Westminster exempting the Dominion and the provinces from the operation of the Colonial Laws Validity Act and the Merchant Shipping Act is approved by the House of Commons. Aug. 6, Provincial election in Prince Edward Island results in defeat of the Liberal Administration of Hon. D. M. Lea by the Conservatives under Hon. J. D. Stewart. Aug. 10, The King and Queen of Siam are officially received in Ottawa. August 24, Hon. L. A. Taschereau's Liberal Adminis-

tration is sustained in a general election in Quebec. Sept. 21, Great Britain suspends specie payments, following which Canada restricts the export of gold. Oct. 17, A U.S. representative is authorized for the first time to "sit in with" the League of Nations, in view of the Sino-Japanese threat to world peace. Dec. 1, Ottawa Branch of the Royal Mounted transferred to the Dominion. Dec. 12, Statute of Westminster establishing complete legislative equality of the Parliament of Canada with that of the United Kingdom becomes effective.

(For further details regarding principal events of 1931 and 1932 see Chapter XXX).

CHAPTER III.—CONSTITUTION AND GOVERNMENT.

The Dominion of Canada is the largest in area and the most populous of the great self-governing Dominions of the British Empire, which also include the Irish Free State (Saorstát Éireann), the Commonwealth of Australia, the Union of South Africa, the Dominion of New Zealand, the island colony of Newfoundland (with the Labrador coast), the colony of Southern Rhodesia, and the island of Malta. These Dominions enjoy responsible government of the British type, administered by Executive Councils (or Cabinets), acting as advisors to the representatives of the sovereign, the Executive Councils being themselves responsible to and possessing the confidence of the representatives elected to Parliament by the people, and giving place to other persons more acceptable to Parliament whenever that confidence is found to have ceased to exist. The Imperial Conference of 1926 defined the group of self-governing communities consisting of Great Britain and the Dominions as Autonomous Communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic or foreign affairs, though united by a common allegiance to the Crown, and freely associated as members of the British Commonwealth of Nations". The Conference further laid down that, as a consequence of this equality of status, the Governor General of a Dominion "is the representative of the Crown, holding in all essential respects the same position in relation to the administration of public affairs in the Dominion as is held by His Majesty the King in Great Britain", and that "it is the right of the Government of each Dominion to advise the Crown in all matters relating to its own affairs". The Conference also recognized certain treaty-making rights as appertaining to the Dominions. At the Imperial Conference of 1930 the constitutional status of the Dominions was further strengthened by the decisions to repeal the Colonial Laws Validity Act and to establish a voluntary Empire judicial tribunal. It was also definitely laid down that the King appoints his Governors General through the Dominion Governments. An Address of the Parliament of Canada to His Majesty was adopted by the House of Commons on June 30, and by the Senate on July 6, 1931, praying for the enactment by the Parliament of the United Kingdom of the Statute of Westminster removing the remaining legal limitations under the Colonial Laws Validity Act of 1895, the Merchant Shipping Act of 1894 and the Colonial Courts of Admiralty Act of 1890 on the legislative autonomy of the Dominions. In compliance with this Address and similar Addresses from the Parliaments of other Dominions, the Parliament of the United Kingdom having enacted legislation to this effect, the Royal Assent was given thereto on Dec. 12, 1931.

Of the Dominions, Canada, Australia and South Africa extend over enormous areas of territory, each of the first two approximating in area to Europe, and including great provinces or states larger than most of its great Powers. Each province or state has its own problems and its own point of view, so that local Parliaments for each section, as well as the central Parliament for the whole country, are required. These local Parliaments, established when transportation and communication were more difficult and expensive than at present, were chronologically prior to the central body, to which on its formation they either resigned certain powers, as in the case of Australia, or surrendered all their powers with certain specified exceptions, as in Canada and South Africa. Of such local Parliaments, Canada at the present time has nine, Australia six, and South Africa four.

Besides the Dominions above enumerated, the great Empire of India has internationally been accepted as a member of the League of Nations, and in its internal administration has been placed on the road, formerly traversed by the Dominions which are now fully self-governing, towards responsible government. India proved her loyalty to the Empire in the Great War and, as the result of the work of Royal Commissions and conferences, a constitution is now being worked out for India along Dominion lines. Although the steps so far taken do not meet the demands of the more radical elements, the result will probably mark as great an advance as the country is now prepared to make. The whole evolution of the Empire throughout all its parts which are more than mere fortresses like Gibraltar or trading stations like Hong Kong, is in the direction of responsible government, to be attained in the dependencies as it has been in what used to be called the colonies by the gradual extension of self-government in proportion to the growing capacities of their respective populations. It is the recognized aim of British administrators by the extension of educational facilities and by just administration, to develop these capacities to the utmost, so that in the dependencies, as well as in the Dominions and in the Mother Country, the constitutional history of the future may be recorded as "freedom slowly broadening down from precedent to precedent".

A conference on the operation of Dominion legislation and merchant shipping legislation, arising out of the report of the Imperial Conference of 1926, was held in London from Oct. 8 to Dec. 4, 1929. This conference dealt with the power of disallowing or reserving Dominion legislation, the extra-territorial operation of Dominion legislation and merchant shipping legislation, on all which subjects its report was generally in the nature of giving effect to the definition of the equal status of the Dominions as made by the Imperial Conference of 1926.

PART I.—CONSTITUTION AND GENERAL GOVERNMENT

Under the above heading a brief historical and descriptive account of the evolution of the general government of Canada was given on pp. 89-100 of the Canada Year Book, 1922-23.

PART II.—PROVINCIAL AND LOCAL GOVERNMENT.

Under the heading "Provincial and Local Government in Canada", a brief account of the government of each of the provinces of Canada and of its municipal institutions and judicial organization was published on pp. 101-115 of the 1922-23 edition of the Year Book.

PART III.—LEGISLATIVE AND EXECUTIVE AUTHORITIES

Section 1.—Dominion Parliament and Ministry.

The Dominion Parliament is composed of the King, represented by the Governor General, the Senate and the House of Commons. The Governor General is appointed by the King on the advice of the Government of Canada. Members of the Senate are appointed for life by the Governor General in Council and members of the House of Commons are elected by the people. As a result of the working out of the democratic principle, the part played by the King's Representative and the Upper Chamber of Parliament in the country's legislation has been, in Canada as in the Mother Country, a steadily decreasing one, the chief responsibilities involved in legislation being assumed by the House of Commons.

Subsection 1.—The Governor General of Canada.

The Governor General is appointed by the King as his representative in Canada, usually for a term of five years, with a salary fixed at £10,000 sterling per annum forming a charge against the consolidated revenue of the country. The Governor General is bound by the terms of his commission and can exercise only such authority as is expressly entrusted to him. He acts under the advice of his Ministry, which is responsible to Parliament, and, as the acting head of the executive, summons, prorogues, and dissolves Parliament and assents to or reserves bills. In the discharge of these and other executive duties, he acts entirely by and with the advice of his Ministry (the Governor General in Council). The royal prerogative of mercy in capital cases, formerly exercised on the Governor General's own judgment and responsibility, is now exercised pursuant to the advice of the Ministry. The practice whereby the Governor General served as the medium of communication between the Canadian and the British Governments has been given up; since July 1, 1877, direct communication between His Majesty's Government in Canada and His Majesty's Government in Great Britain has been instituted.

A list of the Governors General from the time of Confederation, with the dates of their appointment and assumption of office, is given in Table 1.

1.—Governors General of Canada, 1867-1932.

Name.	Date of Appointment.	Date of Assumption of Office.
Count Monck, G.C.M.G.	June 1, 1867	July 1, 1867
Lord Lisgar, G.C.M.G.	Dec. 29, 1868	Feb. 2, 1869
Earl of Dufferin, K.P., K.C.B., G.C.M.G.	May 22, 1872	June 25, 1872
Marquis of Lorne, K.T., G.C.M.G.	Oct. 5, 1878	Nov. 25, 1878
Marquis of Lansdowne, G.C.M.G.	Aug. 18, 1883	Oct. 23, 1883
Lord Stanley of Preston, G.C.B.	May 1, 1888	June 11, 1888
Earl of Aberdeen, K.T., G.C.M.G.	May 22, 1893	Sept. 18, 1893
Earl of Minto, G.C.M.G.	July 30, 1898	Nov. 12, 1898
Lord Grey, G.C.M.G.	Sept. 26, 1904	Dec. 10, 1904
Lord Marshall H.R.H. the Duke of Connaught, K.G.	Mar. 21, 1911	Oct. 13, 1911
Duke of Devonshire, K.G., G.C.M.G., G.C.V.O.	Aug. 19, 1916	Nov. 11, 1916
General the Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O.	Aug. 2, 1921	Aug. 11, 1921
Count Willingdon of Ratton, G.C.S.I., G.C.I.E., G.B.E.	Aug. 5, 1926	Oct. 2, 1926
Earl of Bessborough, G.C.M.G.	Feb. 9, 1931	April 4, 1931

Subsection 2.—The Ministry.

A system of government based upon the British, by which a Cabinet or Ministry (composed of members of the House of Commons or the Senate), responsible to Parliament, holds office while it enjoys the confidence of the people's representatives, is found in Canada. The Cabinet is actually a committee of the King's Privy Council for Canada. Without enlarging upon the features of the system, it may be sufficient to note that the Cabinet is responsible to the House of Commons, and, following established precedent, resigns office when it becomes evident that it no longer holds the confidence of the people's representatives. Members of the Cabinet are chosen by the Prime Minister; each of them generally assumes charge of one of the various Departments of the Government; although one Minister may hold two portfolios at the same time, while other members may be without portfolio.

The Prime Ministers since Confederation and the dates of their tenures of office, together with the members of the fifteenth Ministry are given in Table 2. The complete list of the members of the King's Privy Council for Canada, as at Dec. 31, 1931, is added as Table 3.

2.—Ministries since Confederation.

NOTE.—A complete list of the members of Dominion Ministries from Confederation to 1913 appears in the Year Book of 1912, pp. 422-429. A list of the members of Dominion Ministries from 1911 to 1920 appeared in the Year Book of 1920, pp. 651-653. A list of the members of the twelfth and thirteenth Ministries appeared on pp. 76-77 of the 1927-28 Year Book. Members of the fourteenth Ministry are listed at p. 69 of the 1929 Year Book and p. 69 of the 1930 Year Book.

1. Rt. Hon. Sir John A. Macdonald, Prime Minister. From July 1, 1867, to Nov. 6, 1873.
2. Hon. Alexander Mackenzie, Prime Minister. From Nov. 7, 1873, to Oct. 16, 1878.
3. Rt. Hon. Sir John A. Macdonald, Prime Minister. From Oct. 17, 1878, to June 6, 1891.
4. Hon. Sir John J. C. Abbott, Prime Minister. From June 16, 1891, to Dec. 5, 1892.
5. Hon. Sir John S. D. Thompson, Prime Minister. From Dec. 5, 1892, to Dec. 12, 1894.
6. Hon. Sir Mackenzie Bowell, Prime Minister. From Dec. 21, 1894, to April 27, 1896.
7. Hon. Sir Charles Tupper, Prime Minister. From May 1, 1896, to July 8, 1896.
8. Rt. Hon. Sir Wilfrid Laurier, Prime Minister. From July 11, 1896, to Oct. 6, 1911.
9. Rt. Hon. Sir Robert L. Borden, Prime Minister. (Conservative Administration). From Oct. 10, 1911, to Oct. 12, 1917.
10. Rt. Hon. Sir Robert L. Borden, Prime Minister. (Unionist Administration). From Oct. 12, 1917, to July 10, 1920.
11. Rt. Hon. Arthur Meighen, Prime Minister. (Unionist—"National Liberal and Conservative Party"). From July 10, 1920, to Dec. 29, 1921.
12. Rt. Hon. William Lyon Mackenzie King, Prime Minister. From Dec. 29, 1921, to June 28, 1926.
13. Rt. Hon. Arthur Meighen, Prime Minister. From June 29, 1926, to Sept. 25, 1926.
14. Rt. Hon. William Lyon Mackenzie King, Prime Minister. From Sept. 25, 1926, to Aug. 6, 1930.
15. Rt. Hon. R. B. Bennett, Prime Minister. From Aug. 7, 1930.

FIFTEENTH DOMINION MINISTRY.

(According to precedence of the Ministers as at the formation of the Cabinet.)

Office.	Occupant.	Date of Appointment.
Prime Minister, President of the Privy Council, Secretary of State for External Affairs.....	Right Hon. R. B. Bennett, K.C.	Aug. 7, 1930
Minister of Finance.....	Right Hon. R. B. Bennett, K.C.	Aug. 7, 1930
Minister without Portfolio.....	Hon. E. N. Rhodes, K.C.	Feb. 3, 1930
Minister without Portfolio.....	Right Hon. Sir George H. Perley	Aug. 7, 1930
Minister of Labour.....	Right Hon. Arthur Meighen (Senator)	Feb. 3, 1930
	Hon. Gideon D. Robertson (Senator)	Aug. 7, 1930
Minister of Justice and Attorney-General.....	Hon. W. A. Gordon, K.C.	Feb. 3, 1930
Minister of Fisheries.....	Hon. Hugh Guthrie, K.C.	Aug. 7, 1930
	Hon. E. N. Rhodes, K.C.	Aug. 7, 1930
	Hon. Alfred Duranleau, K.C. (Acting)	Feb. 3, 1930
Minister of Trade and Commerce.....	Hon. H. H. Stevens	Aug. 7, 1930
Minister of Railways and Canals.....	Hon. Dr. R. J. Manion, M.C., M.D.	Aug. 7, 1930
Minister of National Revenue.....	Hon. E. B. Ryckman, K.C.	Aug. 7, 1930
Minister without Portfolio.....	Hon. J. A. Macdonald	Aug. 7, 1930
Postmaster-General.....	Hon. Arthur Sauvé	Aug. 7, 1930
Minister of Pensions and National Health.....	Col. the Hon. Murray MacLaren, C.A.M.C., C.M.G., M.D., C.M., M.R.C.S.	Aug. 7, 1930
Minister of Public Works.....	Hon. H. A. Stewart, K.C.	Aug. 7, 1930
Secretary of State.....	Hon. C. H. Cahan, K.C.	Aug. 7, 1930
Minister of National Defence.....	Lt.-Col. the Hon. D. M. Sutherland, M.B., D.S.O.	Aug. 7, 1930
Minister of Marine.....	Hon. Alfred Duranleau, K.C.	Aug. 7, 1930
Minister of Interior and Superintendent-General of Indian Affairs.....	Hon. Thomas G. Murphy	Aug. 7, 1930
Solicitor-General.....	Hon. Maurice Dupré, K.C.	Aug. 7, 1930
Minister of Immigration and Colonization and Minister of Mines.....	Hon. W. A. Gordon, K.C.	Aug. 7, 1930
Minister of Agriculture.....	Major the Hon. Robert Weir	Aug. 7, 1930

3.—Members of the King's Privy Council for the Dominion of Canada, According to Seniority Therein,¹ as at Dec. 31, 1931.

NOTE.—In this list the prefix Rt. Hon. indicates membership in the British Privy Council. Besides those mentioned in this list, the Rt. Hon. F. A. Anglin, Chief Justice of the Supreme Court, and the Rt. Hon. L. P. Duff, Justice of the Supreme Court, are Canadian members of the British Privy Council.

Name.	Date when Sworn In.	Name.	Date when Sworn In.
the Rt. Hon. Sir William Mulock.	July 13, 1896	The Hon. James Murdock.	Dec. 29, 1921
the Rt. Hon. Sir Charles Fitzpatrick ⁶	Feb. 11, 1902	The Hon. John Ewan Sinclair.	Dec. 30, 1921
the Hon. N. A. Belcourt.	Jan. 12, 1905	The Hon. James H. King.	Feb. 3, 1922
the Hon. F. Oliver.	April 8, 1905	The Hon. Edward Mortimer MacDonald.	April 12, 1923
the Hon. Sir A. B. Aylesworth.	Oct. 16, 1905	The Hon. Edward James McMurray	Nov. 14, 1923
the Hon. Rodolphe Lemieux.	June 4, 1906	The Hon. Pierre Joseph Arthur Cardin.	Jan. 30, 1924
the Rt. Hon. George P. Graham.	Aug. 30, 1907	The Hon. Frédéric Liguori Béique.	May 20, 1925
the Hon. Charles Murphy.	Oct. 5, 1908	The Hon. George Newcombe Gordon.	Sept. 7, 1925
the Rt. Hon. W. L. Mackenzie King ⁴ .	June 2, 1909	The Hon. Herbert Marler ⁶ .	Sept. 9, 1925
the Hon. Charles Marcl.	Oct. 6, 1911	The Hon. Charles Vincent Massey.	Sept. 16, 1925
the Rt. Hon. Sir Robert Laird Borden.	Oct. 10, 1911	The Hon. Walter Edward Foster.	Sept. 26, 1925
the Rt. Hon. Sir George Halsey Perley ² .	Oct. 10, 1911	The Hon. Philippe Roy ⁶ .	Feb. 9, 1926
the Hon. Robert Rogers.	Oct. 10, 1911	The Hon. Charles A. Dunning.	Mar. 1, 1926
the Rt. Hon. Sir Thomas White.	Oct. 10, 1911	The Hon. John C. Elliott.	Mar. 8, 1926
the Hon. Sir John Douglas Hazen.	Oct. 10, 1911	The Hon. William Anderson Black.	June 29, 1926
the Hon. William James Roche.	Oct. 10, 1911	The Hon. James D. Chaplin.	July 13, 1926
the Hon. Wilfrid Bruno Nantel.	Oct. 10, 1911	The Hon. George Burpee Jones.	July 13, 1926
the Hon. Martin Burrell.	Oct. 16, 1911	The Hon. Edmond Baird Ryckman ² .	July 13, 1926
the Hon. Henri S. Béland.	Feb. 15, 1912	The Hon. Donald Sutherland.	July 13, 1926
the Hon. Louis Coderre.	Oct. 29, 1912	The Hon. Raymond Ducharme Morand.	July 13, 1926
the Hon. Pierre Édouard Blondin.	Oct. 20, 1914	The Hon. John Alexander Macdonald ² .	July 13, 1926
the Rt. Hon. Arthur Meighen ² .	Oct. 2, 1915	The Hon. John Leo Chabot.	July 19, 1926
the Hon. Esioff Léon Patenaude.	Oct. 6, 1915	The Hon. Eugène Paquet.	Aug. 23, 1926
the Rt. Hon. William Morris Hughes.	Feb. 18, 1916	The Hon. Guillaume André Fauteux.	Aug. 23, 1926
the Hon. Albert Sévigny.	Jan. 8, 1917	The Hon. Lucien Cannon.	Sept. 25, 1926
the Hon. Charles Colquhoun.	Oct. 3, 1917	The Hon. Peter John Veniot.	Sept. 25, 1926
Ballantyne.	Oct. 12, 1917	The Hon. William D. Euler.	Sept. 25, 1926
the Hon. James Alexander Calder.	Oct. 12, 1917	The Hon. Fernand Rinfret.	Sept. 25, 1926
the Hon. Newton Wesley Rowell.	Oct. 12, 1917	The Hon. James Malcolm.	Sept. 25, 1926
the Hon. Sydney Chilton Mewburn.	Oct. 12, 1917	The Hon. Robert Forke.	Sept. 25, 1926
the Hon. Thomas Alexander Crerar.	Oct. 12, 1917	The Hon. Peter Heenan.	Sept. 25, 1926
the Hon. Alexander K. Maclean.	Oct. 23, 1917	The Hon. James Layton Ralston.	Oct. 8, 1926
the Hon. Gideon D. Robertson.	Oct. 23, 1917	H.R.H. Edward Albert Christian George Andrew Patrick David, Prince of Wales.	Aug. 2, 1927
the Hon. Sir Hormisdas Laporte.	Nov. 13, 1917	The Rt. Hon. Stanley Baldwin.	Aug. 2, 1927
the Hon. Hugh Guthrie ² .	July 5, 1919	The Hon. Thomas Ahearn.	Jan. 10, 1928
the Hon. Sir Henry Lumley Drayton.	Aug. 2, 1919	The Rt. Hon. James Ramsay MacDonald.	Oct. 18, 1929
the Hon. Simon Fraser Tolmie.	Aug. 12, 1919	The Hon. William Frederick Kay.	June 17, 1930
the Hon. Fleming Blanchard.	July 13, 1920	The Hon. Cyrus Macmillan.	June 17, 1930
McCurdy.	July 13, 1920	The Hon. Ian Alistair Mackenzie.	June 27, 1930
the Hon. Rupert W. Wigmore.	July 13, 1920	The Hon. Arthur C. Hardy.	July 31, 1930
the Hon. Edgar N. Rhodes ² .	Feb. 22, 1921	The Hon. Arthur Sauvé ² .	Aug. 7, 1930
the Hon. John Babington.	Sept. 21, 1921	The Hon. Murray MacLaren ² .	Aug. 7, 1930
Macauley Baxter.	Sept. 21, 1921	The Hon. Hugh Alexander Stewart ² .	Aug. 7, 1930
the Hon. Henry Herbert Stevens ² .	Sept. 22, 1921	The Hon. Charles Hazlitt Cahan ² .	Aug. 7, 1930
the Hon. Robert James Manion ² .	Sept. 26, 1921	The Hon. Donald Matheson Sutherland ² .	Aug. 7, 1930
the Hon. James Robert Wilson.	Oct. 4, 1921	The Hon. Alfred Duranleau ² .	Aug. 7, 1930
the Rt. Hon. Richard Bedford Bennett ³ .	Dec. 29, 1921	The Hon. Thomas Gerow Murphy ² .	Aug. 7, 1930
the Hon. Jacques Bureau.	Dec. 29, 1921	The Hon. Maurice Dupré ² .	Aug. 7, 1930
the Hon. Ernest Lapointe.	Dec. 29, 1921	The Hon. Wesley Ashton Gordon ² .	Aug. 7, 1930
the Hon. Arthur Bliss Copp.	Dec. 29, 1921	The Hon. Robert Weir ² .	Aug. 7, 1930
the Hon. Charles Stewart.	Dec. 29, 1921	The Hon. G. Howard Ferguson ⁶ .	Jan. 14, 1931
the Hon. William Richard Motherwell.	Dec. 29, 1921	The Hon. W. D. Herridge ⁶ .	June 17, 1931

¹ As in the case of Privy Councillors of the United Kingdom, members of His Majesty's Privy Council for Canada take rank *inter se* according to the dates of their being sworn in. ² Ranks as a Member of the Cabinet. ³ Ranks as the Prime Minister of Canada. ⁴ Ranks as the Leader of the Opposition. ⁵ Ranks as Retired Chief Justice of Canada. ⁶ Canadian Ministers abroad.

In Table 4 are given the dates of the opening and prorogation of the sessions of the various Dominion Parliaments from 1867 to 1932.

4.—Duration and Sessions of Dominion Parliaments, 1867-1932.

Number of Parliament.	Session.	Date of Opening.	Date of Prorogation.	Days of Session.	Elections, Writs Returnable, Dissolutions and Length of Parliaments. ⁷
1st Parliament.....	1st	Nov. 1, 1867	May 22, 1868	118 ¹	Aug., Sept., 1867. ³
	2nd	April 15, 1869	June 22, 1869	69	Sept. 24, 1867. ⁴
	3rd	Feb. 15, 1870	May 12, 1870	87	July 8, 1872. ⁵
	4th	Feb. 15, 1871	April 14, 1871	59	4 y., 9 m., 15d. ⁶
	5th	April 11, 1872	June 14, 1872	65	July, Aug., Sept., 1872. ³
2nd Parliament.....	1st	Mar. 5, 1873	Aug. 13, 1873	81 ²	Sept. 3, 1872. ⁴
	2nd	Oct. 23, 1873	Nov. 7, 1873	16	Jan. 2, 1874. ⁵
3rd Parliament.....	1st	Mar. 26, 1874	May 26, 1874	62	1 y., 4 m., 0 d. ⁶
	2nd	Feb. 4, 1875	April 8, 1875	64	Jan. 22, 1874. ³
	3rd	Feb. 10, 1876	April 12, 1876	63	Feb. 21, 1874. ⁴
	4th	Feb. 8, 1877	April 28, 1877	80	Aug. 17, 1878. ⁵
	5th	Feb. 7, 1878	May 10, 1878	93	4 y., 5 m., 25 d. ⁶
4th Parliament.....	1st	Feb. 13, 1879	May 15, 1879	92	Sept. 17, 1878. ³
	2nd	Feb. 12, 1880	May 7, 1880	86	Nov. 21, 1878. ⁴
	3rd	Dec. 9, 1880	Mar. 21, 1881	103	May 18, 1882. ⁵
	4th	Feb. 9, 1882	May 17, 1882	98	3 y., 5 m., 28 d. ⁶
5th Parliament.....	1st	Feb. 8, 1883	May 25, 1883	107	June 20, 1882. ³
	2nd	Jan. 17, 1884	April 19, 1884	94	Aug. 7, 1882. ⁴
	3rd	Jan. 29, 1885	July 20, 1885	173	Jan. 15, 1887. ⁵
	4th	Feb. 25, 1886	June 2, 1886	98	4 y., 5 m., 10 d. ⁶
6th Parliament.....	1st	April 13, 1887	June 23, 1887	72	Feb. 22, 1887. ³
	2nd	Feb. 23, 1888	May 22, 1888	90	April 7, 1887. ⁴
	3rd	Jan. 31, 1889	May 2, 1889	92	Feb. 3, 1891. ⁵
	4th	Jan. 16, 1890	May 16, 1890	121	3 y., 9 m., 27 d. ⁶
7th Parliament.....	1st	April 29, 1891	Sept. 30, 1891	155	
	2nd	Feb. 25, 1892	July 9, 1892	136	Mar. 5, 1891. ³
	3rd	Jan. 26, 1893	April 1, 1893	66	April 25, 1891. ⁴
	4th	Mar. 15, 1894	July 23, 1894	131	April 24, 1896. ⁵
	5th	April 18, 1895	July 22, 1895	96	5 y., 0 m., 0 d. ⁶
8th Parliament.....	6th	Jan. 2, 1896	April 23, 1896	111	
	1st	Aug. 19, 1896	Oct. 5, 1896	48	
	2nd	Mar. 25, 1897	June 29, 1897	97	June 23, 1896. ³
	3rd	Feb. 3, 1898	June 13, 1898	131	July 13, 1896. ⁴
	4th	Mar. 16, 1899	Aug. 11, 1899	149	Oct. 9, 1900. ⁵
9th Parliament.....	5th	Feb. 1, 1900	July 18, 1900	168	4 y., 2 m., 26 d. ⁶
	1st	Feb. 6, 1901	May 23, 1901	107	Nov. 7, 1900. ³
	2nd	Feb. 13, 1902	May 15, 1902	90	Dec. 5, 1900. ⁴
	3rd	Mar. 12, 1903	Oct. 24, 1903	227	Sept. 29, 1904. ⁵
	4th	Mar. 10, 1904	Aug. 10, 1904	154	3 y., 9 m., 26 d. ⁶
10th Parliament.....	1st	Jan. 11, 1905	July 20, 1905	191	Nov. 3, 1904. ³
	2nd	Mar. 8, 1906	July 13, 1906	128	Dec. 15, 1904. ⁴
	3rd	Nov. 22, 1906	April 27, 1907	157	Sept. 17, 1908. ⁵
	4th	Nov. 28, 1907	July 20, 1908	236	3 y., 9 m., 4 d. ⁶
11th Parliament.....	1st	Jan. 20, 1909	May 19, 1909	120	Oct. 26, 1908. ³
	2nd	Nov. 11, 1909	May 4, 1910	175	Dec. 3, 1908. ⁴
	3rd	Nov. 17, 1910	July 29, 1911	196 ⁸	July 29, 1911. ⁵
	1st	Nov. 15, 1911	April 1, 1912	139	2 y., 7 m., 28 d. ⁶
12th Parliament.....	2nd	Nov. 21, 1912	June 6, 1913	173 ⁹	
	3rd	Jan. 15, 1914	June 12, 1914	148	Sept. 21, 1911. ³
	4th	Aug. 18, 1914	Aug. 22, 1914	5	Oct. 7, 1911. ⁴
	5th	Feb. 4, 1915	April 15, 1915	71	Oct. 6, 1917. ⁵
	6th	Jan. 12, 1916	May 18, 1916	127	6 y., 0 m., 0 d. ⁶
13th Parliament.....	7th	Jan. 13, 1917	Sept. 20, 1917	207 ¹⁰	
	1st	Mar. 18, 1918	May 24, 1918	68	
	2nd	Feb. 20, 1919	July 7, 1919	138	Dec. 17, 1917. ³
	3rd	Sept. 1, 1919	Nov. 10, 1919	71	Feb. 27, 1918. ⁴
	4th	Feb. 26, 1920	July 1, 1920	127	Oct. 4, 1921. ⁵
	5th	Feb. 14, 1921	June 4, 1921	111	3 y., 7 m., 6 d. ⁶

¹Adjourned from Dec. 21, 1867 to Mar. 12, 1868, to allow the local Legislatures to meet. ²Adjourned May 23 till Aug. 13. ³Period of general elections. ⁴Writs returnable. ⁵Dissolution of Parliament. ⁶Duration of Parliament in years, months and days. The life of a Parliament is counted from the date of return of election writs to the date of dissolution, both days inclusive. ⁷The ordinary legal limit of duration for each Parliament is five years. ⁸Not including days (59) of adjournment from May 19, July 18. ⁹Not including days (25) of adjournment from Dec. 19, 1912 to Jan. 14, 1913. ¹⁰Not including days (39) of adjournment from Feb. 7 to Mar. 19, 1917.

4.—Duration and Sessions of Dominion Parliaments, 1867-1932—concluded.

Number of Parliament.	Session.	Date of Opening.	Date of Prorogation.	Days of Session.	Elections, Writs Returnable, Dissolutions and Lengths of Parliaments. ⁷
1st Parliament.....	1st	Mar. 8, 1922	June 28, 1922	113	Dec. 6, 1921. ³
	2nd	Jan. 31, 1923	June 30, 1923	151	Jan. 14, 1922. ⁴
	3rd	Feb. 28, 1924	July 19, 1924	143	Sept. 5, 1925. ⁵
	4th	Feb. 5, 1925	June 27, 1925	143	3 y., 7 m., 26 d. ⁶
2nd Parliament.....	1st	Jan. 7, 1926	July 2, 1926	177 ¹	Oct. 29, 1925. ³
					Dec. 7, 1925. ⁴
3rd Parliament.....	1st	Dec. 9, 1926	April 14, 1927	73 ²	July 2, 1926. ⁵
	2nd	Jan. 26, 1928	June 11, 1928	138	208 d. ⁶
	3rd	Feb. 7, 1929	June 14, 1929	128	Sept. 14, 1926. ³
	4th	Feb. 20, 1930	May 30, 1930	100	Nov. 2, 1926. ⁴
4th Parliament.....	1st	Sept. 8, 1930	Sept. 22, 1930	15	May 30, 1930. ⁵
	2nd	Mar. 12, 1931	Aug. 3, 1931	145	3 y., 7 m., 0 d. ⁶
	3rd	Feb. 4, 1932			July 28, 1930. ³
					Aug. 18, 1930. ⁴

¹Including days (13) of adjournment from Mar. 3 to Mar. 15. ²Not including days (54) of adjournment from Dec. 15 to Feb. 8. ³Period of general elections. ⁴Writs returnable. ⁵Dissolution of Parliament. ⁶Duration of Parliament in years, months and days. The life of a Parliament is counted from the date of return of election writs to the date of dissolution, both days inclusive. ⁷The ordinary legal limit of duration for each Parliament is five years.

A brief résumé of the history of parliamentary representation follows. Attention may be drawn to the growth in the number of members of both the Senate and the House of Commons since Confederation and to the greatly increased unit of representation in the Lower House.

Subsection 3.—The Senate.

The British North America Act, 1867, provides in sections 21 and 22 that the Senate shall consist of seventy-two members, who shall be styled Senators. In relation to the constitution of the Senate, Canada shall be deemed to consist of three divisions—(1) Ontario; (2) Quebec; (3) The Maritime Provinces, Nova Scotia and New Brunswick; which three divisions shall be equally represented in the Senate as follows:—Ontario by twenty-four senators; Quebec by twenty-four senators; and the Maritime Provinces by twenty-four senators, twelve thereof representing New Brunswick and twelve thereof representing Nova Scotia. In the case of Quebec, each of the twenty-four senators representing the province shall be appointed for one of the electoral divisions of Lower Canada specified in schedule A to Chapter I of the Consolidated Statutes of Canada". Further, under section 147 of the same Act, it is provided that "in case of the admission to Confederation of Newfoundland or Prince Edward Island, . . . each shall be entitled to a representation in the Senate of four members". "Prince Edward Island when admitted shall be deemed to be comprised in the third of the three divisions into which Canada is divided by this Act" and on its admission "the representation of Nova Scotia and New Brunswick shall, as vacancies occur, be reduced from twelve to ten members respectively". In case of the admission of Newfoundland, the normal membership of the Senate of 72 members was to be increased to 76, while the maximum number of 78 (sec. 28) was to be 82, sec. 26 containing a provision for the appointment of three or six additional members in certain cases, to represent equally the three divisions of Canada.

By 33 Vict., c. 3, an Act to establish and provide for the government of the province of Manitoba, passed in 1870, the newly formed province was given representation of two members in the Senate, provision being made at the same time for increases in representation to three and four on increases of population, according to the decennial census, to 50,000 and 75,000 respectively. In the following year British Columbia, on being admitted to the Union by an Imperial Order in Council of May 16, 1871, was given representation by three senators. Two years later when Prince Edward Island was admitted to Confederation by an Imperial Order in Council of June 26, 1873, it was granted representation in the Senate of four members under the terms of the British North America Act, as cited above. Thus, in 1873 the seven provinces of Ontario, Quebec, Nova Scotia, New Brunswick, Manitoba, British Columbia and Prince Edward Island were represented by a total of 77 members in the Senate, their individual representation at the time being 24, 24, 10, 10, 2, 3 and 4 members respectively.

In 1882, following the 1881 census and an increase of population in Manitoba to 62,260 persons, the representation of this province was increased to three members under authority of the Manitoba Act, 1870. Later, by 50-51 Vict., c. 38, an Act of 1887, the representation of the Northwest Territories in the Senate was fixed at two members. A subsequent increase resulted from the growth of population in Manitoba to 152,506, as shown by the census of 1891, the province being granted a fourth senator under the terms of the Manitoba Act of 1870. An Act passed in the session of 1903, 3 Edw. VII, c. 42, provided for an increase in the representation of the Northwest Territories from two to four members, bringing the total representation at this date to 83 members.

On the establishment of the provinces of Alberta and Saskatchewan out of the former Northwest Territories in 1905, under 4-5 Edw. VII, cc. 3 and 42, provision was made for their representation in the Senate by 4 members each, which might be increased by Parliament to 6 on the completion of the next decennial census. This change in representation brought the membership of the Upper Chamber to a total of 87.

In 1915, by an amendment to the British North America Act (5-6 Geo. V, c. 45) an important change was made with regard to the constitution of the Senate. The number of divisions provided for by section 22 of the original Act was increased from three to four, the fourth comprising the four western provinces of Manitoba, Saskatchewan, Alberta and British Columbia. Each of these provinces was to be represented by 6 members under the Act, the division being thus represented by 24 members and placed on an equality with the others with respect to membership. A corresponding change was made in the number of additional senators provided for by the original British North America Act, by substituting increases of four or eight members for the three or six cited in section 26 of the Act of 1867. Normal representation, therefore, is at present fixed at 96, which number may be increased necessary to 100 or to a maximum of 104.

The entry of Newfoundland to the Union is still provided for by the above Act, sub-section 6 of sec. 1 of which sets out its representation as six members instead of the four granted by the Act of 1867. Should Newfoundland be admitted to the Dominion, the normal number of senators is to be 102 with a maximum of 110.

In Table 5 the growth of membership in the Senate is shown by divisions and provinces from 1867 to 1915, since when no change has taken place. The names and addresses of the senators from each province are given as at Mar. 31, 1932, in Table 6.

5.—Growth of Representation in the Senate, 1867-1932.

Province.	1867.	1870.	1871.	1873.	1882.	1887.	1892.	1903.	1905.	1915-1932.
Ontario.....	24	24	24	24	24	24	24	24	24	24
Quebec.....	24	24	24	24	24	24	24	24	24	24
Maritime Provinces.....	24	24	24	24	24	24	24	24	24	24
Nova Scotia.....	12	12	12	10	10	10	10	10	10	10
New Brunswick.....	12	12	12	10	10	10	10	10	10	10
Prince Edward Island.....	—	—	—	4	4	4	4	4	4	4
Western Provinces.....	—	2	5	5	6	8	9	11	15	24
Manitoba.....	—	2	2	2	3	3	4	4	4	6
British Columbia.....	—	—	3	3	3	3	3	3	3	6
Saskatchewan.....	—	—	—	—	—	—	—	—	—	6
Alberta.....	—	—	—	—	—	2	2	4	4	6
Totals.....	72	74	77	77	78	80	81	83	87	96

6.—Representation in the Senate of Canada, by Provinces, as at Mar. 31, 1932.

Name of Senator.	Post Office Address.	Name of Senator.	Post Office Address.
Prince Edward Island— (4 senators).		Quebec—concluded.	
McLean, John.....	Souris.	Blondin, P. E., P.C.....	Montreal.
Hughes, James J.....	Souris.	Chapais, Thomas.....	Quebec.
MacArthur, Creelman.....	Summerside.	Webster, L. C.....	Montreal.
Sinclair, John E., P.C.....	Emerald.	Béland, H. S., P.C.....	St. Joseph de Beauce
		Bureau, Jacques, P.C.....	Three Rivers.
		McDougald, Wilfrid L.....	Montreal.
		Raymond, Donat.....	Montreal.
		Paradis, Philippe J.....	Quebec.
		Lemieux, R., P.C.....	Ottawa.
		Tobin, E. W.....	Bromptonville.
		Parent, G.....	Quebec.
		Prévost, J. E.....	St. Jérôme.
		Wilson, L. A.....	Coteau du Lac.
		Ballantyne, C. C.....	Montreal.
Nova Scotia— (10 senators).		Ontario— (24 senators).	
Girroir, E. L.....	Antigonish.	Belcourt, N. A., P.C.....	Ottawa.
McLennan, John S.....	Sydney.	Gordon, Geo.....	North Bay.
Tanner, C. E.....	Pictou.	Smith, E. D.....	Winona.
Stanfield, John.....	Truro.	Donnelly, J. J.....	Pinkerton.
McCormick, John.....	Sydney Mines.	Lynch-Staunton, G.....	Hamilton.
Martin, Peter.....	Halifax.	Robertson, G. D., P.C.....	Welland.
Hatfield, Paul L.....	Yarmouth.	Fisher, J. H.....	Paris.
Logan, H. J.....	Parrsboro.	White, G. V.....	Pembroke.
MacDonald, J. A.....	St. Peters.	Macdonell, A. H.....	Toronto.
Dennis, W. H.....	Halifax.	Hardy, A. C.....	Brockville.
		Aylesworth, Sir A. B., P.C.....	Toronto.
		Haydon, Andrew.....	Ottawa.
		Murphy, Chas., P.C.....	Ottawa.
		Lewis, John.....	Toronto.
		Rankin, Jas. P.....	Stratford.
		Graham, Rt. Hon. George P., P.C.....	Brockville.
		McGuire, William H.....	Toronto.
		Spence, Jas. H.....	Toronto.
		Little, Edgar S.....	London.
		Lacasse, Gustave.....	Tecumseh.
		Horsey, H. H.....	Cressy.
		Wilson, Cairine M.....	Ottawa.
		Murdock, J., P.C.....	Ottawa.
		Meighen, Rt. Hon. A., P.C.....	Toronto.
New Brunswick— (10 senators).			
Poirier, Pascal.....	Shediac.		
Daniel, J. W.....	Saint John.		
Bourque, T. J.....	Richibucto.		
Fodd, Irving E.....	Milltown.		
McDonald, J. A.....	Shediac.		
Black, Frank B.....	Sackville.		
Turgeon, Onésiphore.....	Bathurst.		
Robinson, C. W.....	Moncton.		
Copp, A. B., P.C.....	Sackville.		
Foster, W. E., P.C.....	Saint John.		
Quebec— (24 senators—one vacancy).			
Dandurand, R., P.C.....	Montreal.		
Sasgrain, J. P. B.....	Montreal.		
Béique, F. L., P.C.....	Montreal.		
Tessier, Jules.....	Quebec.		
Wilson, J. M.....	Montreal.		
Pope, Rufus H.....	Cookshire.		
Beaubien, C. P.....	Montreal.		
L'Espérance, D. O.....	Quebec.		
White, R. S.....	Montreal.		

**6.—Representation in the Senate of Canada, by Provinces,
as at Mar. 31, 1932—concluded.**

Name of Senator.	Post Office Address.	Name of Senator.	Post Office Address.
Manitoba—(6 senators).		Alberta—(6 senators).	
Sharpe, W. H.	Manitou.	Michener, Edward	Red Deer.
McMeans, L.	Winnipeg.	Harmer, Wm. J.	Edmonton.
Bénard, Aimé.	Winnipeg.	Griesbach, W. A.	Edmonton.
Schaffner, F. L.	Winnipeg.	Buchanan, W. A.	Lethbridge.
Molloy, J. P.	Morris.	Riley, Daniel E.	High River.
Forke, Robert, P.C.	Pipestone.	Burns, P.	Calgary.
Saskatchewan—(6 senators).		British Columbia— (6 senators).	
Ross, James H.	Moose Jaw.	Planta, A. E.	Nanaimo.
Laird, H. W.	Regina.	Barnard, G. H.	Victoria.
Willoughby, W. B.	Moose Jaw.	Taylor, J. D.	New Westminster.
Caldar, J. A., P.C.	Regina.	Green, R. F.	Victoria.
Gillis, A. B.	Whitewood.	Crowe, S. J.	Vancouver.
Marcotte, A., K.C.	Saskatoon.	King, J. H., P.C.	Vancouver.

Subsection 4.—The House of Commons.

In section 37 of the original British North America Act of 1867 (30 Vict., c. 3) it was provided that "The House of Commons shall . . . consist of one hundred and eighty-one members, of whom eighty-two shall be elected for Ontario, sixty-five for Quebec, nineteen for Nova Scotia, and fifteen for New Brunswick". Further, under section 51, it was enacted that after the completion of the census of 1871 and of each subsequent decennial census, the representation of the four provinces should be readjusted by such authority, in such manner, and from such time as the Parliament of Canada provided, subject to and according to the following rules:—

- "(1) Quebec shall have the fixed Number of Sixty-five Members;
- "(2) There shall be assigned to each of the other Provinces such a Number of Members as will bear the same Proportion to the Number of its Population (ascertained at such Census) as the Number Sixty-five bears to the Number of the Population of Quebec (so ascertained);
- "(3) In the Computation of the Number of Members for a Province a fractional Part not exceeding One Half of the whole Number requisite for entitling the Province to a Member shall be disregarded; but a fractional Part exceeding One Half of that Number shall be equivalent to the whole Number;
- "(4) On any such Re-adjustment the Number of Members for a Province shall not be reduced unless the Proportion which the Number of the Population of the Province bore to the Number of the aggregate Population of Canada at the then last preceding Re-adjustment of the Number of Members for the Province is ascertained at the then latest Census to be diminished by One Twentieth Part or upwards;
- "(5) Such Re-adjustment shall not take effect until the Termination of the then existing Parliament."

Again, in section 52, it was enacted that "the number of members of the House of Commons may be from time to time increased by the Parliament of Canada, provided the proportionate representation of the Provinces prescribed by this Act is not thereby disturbed".

Later on, by the British North America Act of 1886 (49-50 Vict., c. 35), provision was made in section 1 that "the Parliament of Canada may from time to time make provision for the representation in the Senate and House of Commons of Canada, or in either of them, of any territories which for the time being form part of the Dominion of Canada, but are not included in any province thereof".

Again, in 1915, an amendment to the British North America Act (5-6 Geo. V, c. 45) was passed by the Imperial Parliament, providing that "notwithstanding anything in the said Act, a province shall always be entitled to a number of members in the House of Commons not less than the number of senators representing such province".

Readjustments in Representation.—As set out in the above-mentioned provisions of the British North America Act, the first Dominion Parliament of 1867 consisted at its commencement of 181 members, 82 for Ontario, 65 for Quebec, 19 for Nova Scotia and 15 for New Brunswick. To this number were added, under the Manitoba Act of 1870 (33 Vict., c. 3), 4 members to represent the newly created province of Manitoba; also, according to the agreement under which British Columbia entered Confederation, ratified by Imperial Order in Council of May 16, 1871, 6 members were added to represent the new province, making a total of 191 members at the end of the first Parliament of Canada.

Arising out of the first census of the Dominion in 1871, a readjustment of representation took place in 1872 (c. 15 of 1872), increasing the representation of Ontario from 82 to 88, of Nova Scotia from 19 to 21 and of New Brunswick from 15 to 16 members, the 9 additional members bringing the total number of representatives up to 200. To these were added in 1874, as a result of the agreement under which Prince Edward Island entered Confederation (ratified by Imperial Order in Council of June 26, 1873), 6 members representing that province—bringing the membership of the House of Commons to 206.

The results of the second census of 1881 necessitated the passage of a new Representation Act (45 Vict., c. 3), increasing the representation of Ontario from 88 to 92 and that of Manitoba from 4 to 5, thus bringing the membership of the House of Commons to 211 members. To these were added, under the provisions of 49 Vict., c. 24, passed in 1886, 4 members for the Northwest Territories (2 for the then provisional district of Assiniboia and 1 each for the then provisional districts of Alberta and Saskatchewan), bringing the total membership to 215.

The third census of 1891 was followed by another readjustment of representation, reducing the representation of Nova Scotia from 21 to 20, of New Brunswick from 16 to 14, of Prince Edward Island from 6 to 5, and increasing the representation of Manitoba from 5 to 7, the representation of the other provinces remaining as before. The net result was a reduction in the number of members of the House from 215 to 213.

The fourth census of 1901 resulted in a readjustment in 1903, reducing the representation of Ontario from 92 to 86, of Nova Scotia from 20 to 18, of New Brunswick from 14 to 13, of Prince Edward Island from 5 to 4. On the other hand, the representation of Manitoba was increased from 7 to 10, of British Columbia from 6 to 7, of the Northwest Territories from 4 to 10. By chapter 37 of the Statutes of 1902, a member had been added for Yukon Territory, so that the net effect of the changes was to keep the membership at 214 in the early years of the present century. The extremely rapid growth of the Northwest Territories, however, led to their division and admission to Confederation in 1905 as the provinces of Alberta and Saskatchewan. In the Acts admitting them—the Alberta Act (4-5 Edw. VII, c. 3) and the Saskatchewan Act (4-5 Edw. VII, c. 42)—it was provided that their representation should be readjusted on the basis of the results of the quinquennial census of 1906. The Representation Act of 1907, implementing this pledge, increased the representation of Saskatchewan from 6 to 10 and of Alberta from 4 to 7 members, thus raising the total membership of the House of Commons to 221.

The census of 1911, with its very large but very unevenly distributed increase of population, led to considerable changes in representation, enacted by the Representation Act of 1914. The representation of Ontario was reduced from 86 to 82, of Nova Scotia from 18 to 16, of New Brunswick from 13 to 11, of Prince Edward Island from 4 to 3. On the other hand, the representation of Manitoba was raised from 10 to 15, of Saskatchewan from 10 to 16, of Alberta from 7 to 12 and of British Columbia from 7 to 13. The net result was an increase of 13 members in the total membership of the House of Commons, bringing the membership to 234. However in the following session the amendment to the British North America Act, already referred to, resulted in the retention by Prince Edward Island of her fourth member (since she had 4 senators). (See also 5 Geo. V, c. 19). The total membership therefore, of the House of Commons in the thirteenth and fourteenth Parliaments (elected in 1917 and 1921 respectively) was 235.

As a result of the smaller increase of population shown by the census of 1921 the changes in representation were less far-reaching. Nova Scotia lost 2 members and the West gained 12, 2 of these being added to Manitoba, 5 to Saskatchewan, 4 to Alberta and 1 to British Columbia. The representation of the remaining four provinces was unchanged. Prince Edward Island retained its 4 members because of the provisions of the British North America Act of 1915, to the effect that the members of the House of Commons returned by a province shall never be fewer than its senators. Ontario, again, retained its 82 members because under subsection 1 of section 51 of the British North America Act (quoted p. 70), the proportion which its population bore to the aggregate population of the Dominion had not declined by one-twentieth. Further, by the Quebec Boundaries Extension Act of 1912, it had been stipulated that the population of the added area (Ungava) should not be included for the purpose of determining the unit of representation, so that the 1921 population of Quebec, within its 1911 boundaries, *viz.*, 2,358,412, divided by the fixed number of 65 seats for that province, became the new unit of representation, 36,283. Any redistribution of representation resulting from the 1931 census will not affect the existing seventeenth Parliament.

The number of representatives of each province elected at each of the seventeen general elections since Confederation is given in Table 7.

7.—Representation in the House of Commons as at Dominion General Elections, 1867-1931.

Province.	1867.	1872	1874.	1878.	1882	1887.	1891.	1896.	1900.	1904.	1908.	1911.	1917.	1921.	1925.
Ontario.....	82	88	88	88	92	92	92	92	92	86	86	86	82	82	82
Quebec.....	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
Nova Scotia.....	19	21	21	21	21	21	21	20	20	18	18	18	16	16	16
New Brunswick....	15	16	16	16	16	16	16	14	14	13	13	13	11	11	11
Manitoba.....	-	4	4	4	5	5	5	7	7	10	10	10	15	15	15
British Columbia..	-	6	6	6	6	6	6	6	7	7	7	7	13	13	13
P.E. Island.....	-	-	6	6	6	6	6	5	5	4	4	4	4	4	4
Saskatchewan.....	-	-	-	-	-	-	-	-	-	-	10	10	16	16	21
Alberta.....	-	-	-	-	-	4	4	4	4	10	7	7	12	12	16
Yukon.....	-	-	-	-	-	-	-	-	-	1	1	1	1	1	-
Totals.....	181	200	206	206	211	215	215	213	213	214	221	221	235	235	243

¹The representation at the general elections of 1926 and 1930 was the same as in 1925.

The Unit of Representation.—While the number of members of the House of Commons has been growing fairly steadily since Confederation, the unit of representation

ation—one-sixty-fifth of the population of Quebec within its 1911 boundaries—s also been increased after each census in consequence of the expanding population Quebec. The units of representation, as determined by the decennial censuses ken since Confederation, are as follows:—1871, 18,331 persons; 1881, 20,908; 91, 22,901; 1901, 25,368; 1911, 30,819; 1921, 36,283; 1931, 44,219, being one-sixty-th of the population of Quebec exclusive of Ungava.

The Representation Act, 1924.—As a result of the census of 1921, the Representation Act of 1924 (14-15 Geo. V, c. 63), was passed to readjust the representation the House of Commons. Considerable changes were necessarily made in the undaries of the theretofore existing constituencies, and a list of such changes was ven on p. 73 of the 1924 Year Book. A complete list of the constituencies, with e voters on the list and votes polled at the general election of July 28, 1930, together th the names and addresses of those then elected to the House of Commons of the venteenth Parliament of Canada, will be found in Table 8. Changes occurring at bsequent by-elections to Mar. 1, 1932, are indicated in the footnotes.

Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Seventeenth General Election.

NOTE.—The 1921 population of the electoral districts are given here because the Representation Act, 1924, was based on the population of 1921. For the population of the same electoral districts for 1931 see chapter IV, pp. 97-99.

Province and Electoral District.	Population, 1921.	Voters on List.	Votes Polled.	Name of Member.	P.O. Address.
Prince Edward Island— (4 members).					
Kings.....	20,445	10,253	9,159	Macdonald, Hon. J. A.	Cardigan, P.E.I.
Prince.....	31,520	16,350	14,584	Maclean, A. E.....	Summerside, P.E.I.
Queens.....	36,650	20,382	35,776	McLure, W. C. S.....	Charlottetown, P.E.I.
				Myers, J. H.....	Hampton, P.E.I.
Nova Scotia— (14 members).					
Antigonish-Guysborough	27,098	14,877	12,215	Duff, W.....	Lunenburg, N.S.
Cape Breton North-					
Victoria.....	31,325	14,646	12,315	Johnstone, L. W.....	Sydney Mines, N.S.
Cape Breton South.....	58,716	30,961	25,265	MacDonald, F.....	Sydney, N.S.
Colchester.....	25,196	13,656	11,918	Urquhart, M. L.....	Truro, N.S.
Cumberland.....	41,191	19,738	16,328	Smith, R. K.....	Amherst, N.S.
Digby-Annapolis.....	37,765	19,934	16,729	Short, H. B.....	Digby, N.S.
Halifax City and County..	98,228	53,154	81,662	Black, W. A.....	Halifax, N.S.
				Quinn, F. P.....	Halifax, N.S.
Hants-Kings.....	43,462	24,171	21,125	Isley, J. L.....	Kentville, N.S.
Inverness.....	23,808	10,847	9,656	MacDougall, I. D.....	Port Hood, N.S.
Pictou.....	40,851	21,783	18,933	Cantley, T.....	New Glasgow, N.S.
Queens-Lunenburg.....	43,686	24,713	19,969	Ernst, W. G.....	Bridgewater, N.S.
Richmond-West Cp. Breton	17,646	9,608	7,542	MacDonald, J. A.....	St. Peters, N.S.
Shelburne-Yarmouth.....	35,865	17,674	15,070	Ralston, Hon. J. L.....	Yarmouth, N.S.
New Brunswick— (11 members).					
Charlotte.....	21,435	12,627	9,757	Ganong, A. D.....	St. Stephen, N.B.
Gloucester.....	38,684	18,204	15,276	Veniot, Hon. F. J.....	Bathurst, N.B.
Kent.....	23,916	11,019	9,439	Arseneault, T.....	Richibucto, N.B.
Northumberland.....	33,985	16,056	13,804	McDade, G. M.....	Chatham, N.B.
Restigouche-Madawaska..	42,977	23,932	19,771	Cormier, M. D.....	Edmundston, N.B.
Royal.....	32,078	17,469	14,550	Jones, Hon. G. B.....	Apoahqui, N.B.
Saint John-Albert.....	69,093	37,067	50,121	MacLaren, Hon. M.....	Saint John, N.B.
				Bell, T.....	Saint John, N.B.
Victoria-Carleton.....	33,900	18,635	14,480	Smith, B. F.....	East Florenceville, N.B.
Westmorland.....	53,387	29,668	24,286	Price, O. B.....	Moncton, N.B.
York-Sunbury.....	38,421	22,329	14,793	Hanson, R. B.....	Fredericton, N.B.

¹Each voter could vote for two candidates.

²Mr. J. A. MacDonald having accepted an office of emolument under the Crown, Hon. E. N. Rhodes was elected by acclamation Sept. 2, 1930.

8.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Seventeenth General Election—continued.

Province and Electoral District.	Population, 1921.	Voters on List.	Votes Polled.	Name of Member.	P.O. Address.
Quebec—(65 members).					
Argenteuil.....	17,165	9,649	8,703	Perley, Rt. Hon. Sir Geo.	Ottawa, Ont.
Bagot.....	18,035	7,917	7,174	Dumaine, C.	Upton, Que.
Beauce.....	52,701	23,745	18,784	Lacroix, E.	St-George-de-Beauce, Que.
Beauharnois.....	19,888	11,238	9,797	Raymond, M.	Outremont, Que.
Bellechasse.....	21,190	9,308	7,617	Boulanger, O. L.	Quebec, Que.
Berthier-Maskinongé.....	36,762	17,546	14,132	Barrette, J. A.	St.-Barthélemi, Que.
Bonaventure.....	29,092	14,051	11,822	Marcel, Hon. C.	Ottawa, Ont.
Brome-Missisquoi.....	31,180	16,916	14,732	Pickel, F. H.	Sweetsburg, Que.
Chambly-Verchères.....	34,643	20,267	17,014	Duranleau, Hon. A.	Montreal, Que.
Champlain.....	47,852	22,460	19,199	Baribeau, J.-L.	Ste-Genève-de-Batiscan, Que.
Charlevoix-Saguenay.....	46,366	23,028	19,063	Casgrain, P. F.	Westmount, Que.
Chateauguay-Huntingdon..	26,731	13,212	11,446	Moore, J. C.	Huntingdon, Que.
Chicoutimi.....	37,578	23,622	20,539	Dubuc, J. E. A.	Chicoutimi, Que.
Compton.....	32,816	15,263	13,153	Gobeil, S.	La Patrie, Que.
Dorchester.....	29,563	13,270	11,266	Gagnon, O.	Quebec, Que.
Drummond-Arthabaska.....	44,372	23,166	19,123	Girouard, W.	Arthabaska, Que.
Gaspé.....	40,375	19,456	16,327	Brasset, M.	Percé, Que.
Hull.....	39,180	22,790	18,586	Fournier, A.	Hull, Que.
Joliette.....	25,913	12,721	10,964	Ferland, C.-E.	Joliette, Que.
Kamouraska.....	22,014	10,790	8,713	Bouchard, G.	Ste-Anne-de-la-Pocatière, Que.
Labelle.....	35,927	¹	¹	Bourassa, H.	Outremont, Que.
Lake St. John.....	35,539	19,181	16,694	Duguay, J. L.	St-Joseph-d'Alma, Que.
Laprairie-Napierville.....	20,065	9,152	8,345	Dupuis, V.	Laprairie, Que.
L'Assomption-Montcalm..	28,318	14,061	11,299	Séguin, P. A.	L'Assomption, Que.
Laval-Two Mountains.....	28,314	13,733	12,345	Sauvé, Hon. A.	Saint-Eustache, Que.
Lévis.....	33,323	16,677	14,074	Fortin, E.	Lévis, Que.
L'Islet.....	17,859	8,535	6,804	Fafard, J. F.	L'Islet, Que.
Lotbinière.....	21,837	10,381	8,989	Verville, J. A.	St Flavien, Que.
Matane.....	36,303	18,249	14,805	LaRue, J. E. H.	Amqui, Que.
Mégantic.....	33,633	15,889	13,461	Roberge, E.	Laurierville, Que.
Montmagny.....	21,997	9,405	7,550	Lavergne, A.	Quebec, Que.
Nicolet.....	29,695	13,680	11,487	Dubois, L.	Gentilly, Que.
Pontiac.....	45,682	29,732	21,918	Belec, C.	Fort Coulonge, Que.
Portneuf.....	34,452	18,418	15,175	Desrochers, J.	St-Raymond, Que.
Quebec-Montmorency.....	31,000	16,673	14,592	Dorion, C. N.	Courville, Que.
Quebec East.....	40,772	27,049	21,611	Lapointe, Hon. E.	Ottawa, Ont.
Quebec South.....	25,875	19,820	14,881	Power, C. G.	Quebec, Que.
Quebec West.....	37,562	23,891	20,101	Dupré, Hon. M.	Quebec, Que.
Richelieu.....	19,548	10,608	8,938	Cardin, Hon. P. J. A.	Sorel, Que.
Richmond-Wolfe.....	42,248	19,391	16,998	Lafèche, J. F.	Windsor Mills, Que.
Rimouski.....	27,520	13,564	11,043	Fiset, Sir E.	Rimouski, Que.
St-Hyacinthe-Rouville.....	36,754	20,492	16,187	Fontaine, J. T. A.	St-Hyacinthe, Que.
St. Johns-Iberville.....	23,518	14,346	12,099	Rhéaume, M.	St. Johns, Que.
Shefford.....	25,644	14,013	12,648	Tétreault, J. E.	Granby, Que.
Sherbrooke.....	30,786	19,865	16,700	Howard, C. B.	Sherbrooke, Que.
Stanstead.....	23,380	12,998	11,351	Hackett, J. T.	Stanstead, Que.
Témiscouata.....	44,310	20,706	17,584	Pouliot, J. F.	Rivière-du-Loup, Que.
Terrebonne.....	33,908	18,392	15,517	Parent, E.	Ste-Agathe-des-Monts, Que.
Three Rivers-St-Maurice..	50,845	32,978	26,110	Bettez, A. ²	Three Rivers, Que.
Vaudreuil-Soulanges.....	21,620	10,429	8,500	Thauvette, J.	Vaudreuil, Que.
Wright.....	25,867	12,927	11,020	Perras, F. W.	Gracefield, Que.
Yamaska.....	18,507	7,926	7,068	Boucher, A.	Pierreville, Que.
Montreal Island—					
Cartier.....	48,869	25,442	12,262	Jacobs, S. W.	Montreal, Que.
Hochelaga.....	67,836	43,728	28,652	St-Père, E. C.	Montreal, Que.
Jacques Cartier.....	70,856	61,453	44,801	Laurin, J. G. P.	Montreal, Que.
Laurier-Outremont.....	67,682	45,968	27,310	Mercier, J. A.	Montreal, Que.
Missonneuve.....	65,646	50,593	34,196	Robitaille, C. ³	Montreal, Que.
Mount Royal.....	39,487	48,515	26,590	White, R. S.	Montreal, Que.
St. Ann.....	54,834	31,256	22,770	Sullivan, J. A.	Montreal, Que.
St. Antoine.....	33,338	19,956	12,639	Bell, L. G.	Montreal, Que.
St. Denis.....	75,475	69,249	45,396	Denis, J. A.	Montreal, Que.
St. Henri.....	44,372	23,718	17,722	Mercier, P.	Montreal, Que.
St. James.....	54,741	32,776	19,721	Rinfret, Hon. F.	Montreal, Que.
St. Lawrence-St. George..	37,688	19,646	10,479	Cahan, Hon. C. H.	Montreal, Que.
St. Mary.....	63,381	35,762	22,957	Deslauriers, H.	Montreal, Que.

¹Acclamation. ²Mr. Bettez died Jan. 4, 1931 and Charles Bourgeois was elected on August 10, 1931.

³Mr. Robitaille died Jan. 16, 1932.

—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Seventeenth General Election—continued.

Province and Electoral District.	Population, 1921.	Voters on List.	Votes Polled.	Name of Member.	P.O. Address.
Ontario—(82 members).					
Algoma East.....	37,054	17,879	14,251	Nicholson, G. B.....	Chapleau, Ont.
Algoma West.....	35,509	17,893	13,702	Simpson, T. E.....	Sault Ste. Marie, Ont.
Brant.....	20,085	11,538	9,497	Smoke, F.....	Paris, Ont.
Brantford City.....	33,292	19,018	15,309	Ryerson, R. E.....	Brantford, Ont.
Bruce North.....	20,872	12,554	11,185	Malcolm, Hon. J.....	Kincardine, Ont.
Bruce South.....	23,413	13,339	10,602	Hall, W. A.....	Walkerton, Ont.
Carleton.....	32,673	20,493	16,793	Garland, W. F.....	Ottawa, Ont.
Dufferin-Simcoe.....	40,225	20,372	13,790	Rowe, W. E.....	Newton Robinson, Ont.
Durham.....	24,629	16,338	12,068	Bowen, F. W.....	Newcastle, Ont.
Elgin West.....	35,413	21,896	18,680	Hepburn, M. F.....	St. Thomas, Ont.
Essex East.....	25,283	21,097	16,453	Morand, Hon. R. D.....	Windsor, Ont.
Essex South.....	29,375	17,996	14,609	Gott, E. J.....	Amherstburg, Ont.
Essex West.....	49,418	43,231	27,993	Robinson, S. C.....	Walkerville, Ont.
Fort William.....	27,851	14,412	10,861	Manion, Hon. R. J.....	Fort William, Ont.
Frontenac-Addington.....	30,347	17,058	11,537	Spankie, W.....	Wolfe Island, Ont.
Glengarry.....	20,518	10,615	8,948	McGillis, A.....	Williamstown, Ont.
Grenville-Dundas.....	33,953	20,645	14,612	Casselman, A. C.....	Prescott, Ont.
Grey North.....	30,667	18,899	15,068	Porteous, V. C.....	Owen Sound, Ont.
Grey Southeast.....	28,384	16,912	13,028	Macphail, Agnes C.....	Ceylon, Ont.
Haldimand.....	21,287	12,835	11,064	Senn, M. C.....	Caledonia, Ont.
Halton.....	24,899	16,035	12,826	Anderson, R. K.....	Milton, Ont.
Hamilton East.....	54,233	36,829	21,475	Rennie, G. S. ²	Hamilton, Ont.
Hamilton West.....	53,254	30,928	17,335	Bell, C. W.....	Hamilton, Ont.
Hastings-Peterborough.....	28,999	14,804	10,034	Embury, A. T.....	Bancroft, Ont.
Hastings South.....	37,504	22,563	18,548	Tummon, W. E.....	Tweed, Ont.
Huron North.....	23,540	14,488	12,116	Spotton, Geo.....	Wingham, Ont.
Huron South.....	23,548	14,146	12,035	McMillan, T.....	Seaforth, Ont.
Kenora-Rainy River.....	26,315	15,661	12,178	Heenan, Hon. P.....	Kenora, Ont.
Kent.....	50,638	29,006	23,051	Rutherford, J. W.....	Chatham, Ont.
Kingston City.....	24,104	14,569	11,164	Ross, A. E.....	Kingston, Ont.
Lambton East.....	28,271	16,391	12,622	Sproule, J. T.....	Oil Springs, Ont.
Lambton West.....	30,418	18,957	15,236	Gray, R. W.....	Sarnia, Ont.
Lanark.....	32,993	20,816	16,815	Thompson, T. A.....	Almonte, Ont.
Leeds.....	34,099	20,987	15,699	Stewart, Hon. H. A.....	Brockville, Ont.
Lincoln.....	48,625	30,802	21,076	Chaplin, Hon. J. D.....	St. Catharines, Ont.
London.....	53,838	37,465	23,810	White, J. F.....	London, Ont.
Middlesex East.....	27,994	19,170	14,188	Boyes, F.....	Dorchester Station, Ont.
Middlesex West.....	25,033	14,138	11,204	Elliott, Hon. J. C.....	Strathroy, Ont.
Muskoka-Ontario.....	34,859	20,447	14,740	McGibbon, P.....	Bracebridge, Ont.
Nipissing.....	49,965	32,193	23,683	Hurtubise, J. R.....	Sudbury, Ont.
Norfolk-Elgin.....	35,937	23,134	18,902	Taylor, W. H.....	Scotland, Ont.
Northumberland.....	30,512	18,290	16,175	Fraser, W. A.....	Trenton, Ont.
Ontario.....	31,074	24,952	19,843	Moore, W. H.....	Dumbarton, Ont.
Ottawa.....	93,740	61,635	97,369 ¹	Chevrier, E. R. E.....	Ottawa, Ont.
Oxford North.....	24,527	15,405	13,428	Ahearn, T. F.....	Ottawa, Ont.
Oxford South.....	22,235	13,660	11,388	Sutherland, Hon. D. M.....	Woodstock, Ont.
Parkdale.....	59,545	37,242	17,566	Cayley, T. M.....	Norwich, Ont.
Parry Sound.....	27,022	13,169	9,918	Spence, D.....	Toronto, Ont.
Peel.....	23,896	17,077	13,995	Arthurs, J.....	Parry Sound, Ont.
Peel North.....	32,461	20,249	16,610	Charters, S.....	Brampton, Ont.
Perth South.....	18,382	11,099	9,428	Wright, D. M.....	Stratford, Ont.
Peterborough West.....	34,054	21,575	17,608	Sanderson, F. G.....	St. Marys, Ont.
Port Arthur-Thunder Bay.....	27,158	14,364	10,859	Peck, E. A.....	Peterborough, Ont.
Prescott.....	26,478	12,498	8,927	Cowan, D. J.....	Port Arthur, Ont.
Prince Edward-Lennox.....	25,843	15,786	12,414	Bertrand, E. O.....	L'Orignal, Ont.
Renfrew North.....	27,079	14,571	11,086	Weese, J. A.....	Belleville, Ont.
Renfrew South.....	27,061	14,534	12,595	Cotnam, I. D.....	Pembroke, Ont.
Russell.....	43,413	21,807	17,591	Maloney, M. J.....	Eganville, Ont.
Simcoe, East.....	37,122	19,442	15,669	Goulet, A.....	Bourget, Ont.
Simcoe North.....	22,100	16,125	13,791	Thompson, A. B.....	Penetanguishene, Ont.
Stormont.....	25,134	17,694	15,318	Simpson, J. T.....	Barrie, Ont.
Timiskaming North.....	26,028	24,879	16,773	Shaver, F. T.....	Aultsville, Ont.
Timiskaming South.....	31,747	21,892	16,024	Bradette, J. A.....	Cochrane, Ont.
Toronto East.....	67,735	40,630	19,835	Gordon, Hon. W. A.....	Haileybury, Ont.
Toronto East Centre.....	69,717	37,971	16,514	Ryckman, Hon. E. B.....	Toronto, Ont.
Toronto High Park.....	50,856	36,245	17,661	Matthews, R. C.....	Toronto, Ont.
Toronto Northeast.....	58,319	63,635	27,742	Anderson, A. J.....	Toronto, Ont.
				Baker, R. L.....	Toronto, Ont.

¹Each voter could vote for two candidates. ²Mr. G. S. Rennie died Oct. 13, 1930 and Humphrey Mitchell was elected on August 10, 1931.

8.—Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Seventeenth General Election—continued.

Province and Electoral District.	Population, 1921.	Voters on List.	Votes Polled.	Name of Member.	P.O. Address.
Ontario—concluded.					
Toronto Northwest.....	61,484	42,875	19,902	MacNicol, J. R.....	Toronto, Ont.
Toronto Scarborough.....	49,749	50,372	23,321	Harris, J. M.....	Toronto, Ont.
Toronto South.....	49,291	18,005	7,681	Geary, G. R.....	Toronto, Ont.
Toronto West Centre.....	59,197	31,136	17,261	Factor, S.....	Toronto, Ont.
Victoria.....	33,995	19,725	15,342	Stinson, T. H.....	Lindsay, Ont.
Waterloo North.....	41,698	28,694	22,580	Euler, Hon. W. D....	Kitchener, Ont.
Waterloo South.....	33,568	20,922	13,984	Edwards, A. Mc-Kay.....	Galt, Ont.
Welland.....	66,668	41,568	28,831	Pettit, G. H.....	Welland, Ont.
Wellington North.....	19,833	11,826	9,365	Blair, J. K.....	Arthur, Ont.
Wellington South.....	34,327	22,515	16,818	Guthrie, Hon. H....	Guelph, Ont.
Wentworth.....	46,080	34,655	24,782	Wilson, G. C.....	Dundas, Ont.
York North.....	36,222	23,801	20,583	Lennox, T. H.....	Toronto, Ont.
York South.....	27,895	31,010	17,296	McGregor, R. H....	Toronto, Ont.
York West.....	61,655	62,645	32,300	Lawson, J. E.....	Toronto, Ont.
Manitoba—(17 members).					
Brandon.....	38,500	20,438	16,451	Beaubier, D. W....	Brandon, Man.
Dauphin.....	38,607	16,842	13,621	Bowman, J. L.....	Dauphin, Man.
Lisgar.....	30,604	13,217	10,200	Brown, J. L.....	Pilot Mound, Man.
Macdonald.....	31,877	15,152	11,784	Weir, W. G.....	Rosebank, Man.
Marquette.....	34,482	18,051	14,742	Mullins, H. A.....	Winnipeg, Man.
Neepawa.....	29,941	13,249	10,855	Murphy, Hon. T. G.	Neepawa, Man.
Nelson.....	20,868	11,050	8,873	Stitt, B. M.....	The Pas, Man.
Portage la Prairie.....	35,461	15,738	12,641	Burns, W. H.....	Portage la Prairie.
Provencher.....	29,439	11,879	7,905	Beaubien, A. L....	St. Jean Baptiste, Man.
Selkirk.....	41,265	19,287	14,454	Stitt, J. H.....	Winnipeg, Man.
Souris.....	24,439	14,296	12,102	Willis, E. F.....	Boissevain, Man.
Springfield.....	30,836	16,614	11,082	Hay, T.....	Gonor, Man.
St. Boniface.....	35,429	20,775	13,738	Howden, J. P.....	St. Boniface, Man.
Winnipeg North.....	52,473	24,781	14,313	Heaps, A. A.....	Winnipeg, Man.
Winnipeg North Centre.....	39,142	22,649	10,955	Woodsworth, J. S...	Winnipeg, Man.
Winnipeg South.....	32,943	27,959	20,275	Rogers, Hon. R.....	Winnipeg, Man.
Winnipeg South Centre.....	63,812	46,112	31,201	Kennedy, W. W....	Winnipeg, Man.
Saskatchewan—(21 members).					
Assiniboia.....	34,789	18,867	15,723	McKenzie, R.....	Stoughton, Sask.
Humboldt.....	37,128	18,069	14,079	Totzke, A. F.....	Vonda, Sask.
Kindersley.....	28,997	16,465	12,570	Carmichael, A. M...	Kindersley, Sask.
Last Mountain.....	34,054	15,215	12,946	Butcher, H.....	Pumichy, Sask.
Long Lake.....	32,308	14,640	12,514	Cowan, W. D.....	Regina, Sask.
Mackenzie.....	34,669	17,652	13,592	Campbell, M. N....	Pelly, Sask.
Maple Creek.....	38,586	20,799	17,449	Swanston, J. B....	Shanavon, Sask.
Melfort.....	30,716	2,914	17,587	Weir, Hon. Robert	Weldon, Sask.
Melville.....	36,842	16,677	14,273	Motherwell, Hon. W. R.....	Abernethy, Sask.
Moose Jaw.....	42,243	21,825	17,704	Beynon, W. A.....	Moose Jaw, Sask.
North Battleford.....	34,451	20,811	15,566	McIntosh, C. R....	North Battleford, Sask.
Prince Albert.....	39,126	20,676	17,464	Mackenzie King, Rt. Hon. W. L....	Ottawa, Ont.
Qu'Appelle.....	33,003	17,397	14,851	Perley, E. D.....	Wolseley, Sask.
Regina.....	40,625	30,707	25,430	Turnbull, F. W....	Regina, Sask.
Rosetown.....	29,341	15,286	12,448	Loucks, W. J.....	Delisle, Sask.
Saskatoon.....	40,712	28,850	21,566	MacMillan, F. R...	Saskatoon, Sask.
South Battleford.....	35,070	20,026	16,223	Vallance, J.....	Onward, Sask.
Swift Current.....	40,305	17,775	14,010	Bothwell, C. E....	Swift Current.
Weyburn.....	37,431	17,523	14,474	Young, E. J.....	Dummer, Sask.
Willow Bunch.....	39,257	22,638	18,799	Donnelly, T. F.....	Kincaid, Sask.
Yorkton.....	37,857	15,388	12,384	McPhee, G. W....	Yorkton, Sask.
Alberta—(16 members).					
Acadia.....	39,974	1	1	Gardiner, R.....	Excel, Alta.
Athabaska.....	37,214	19,617	11,989	Buckley, J. F ²	St. Paul, Alta.
Battle River.....	36,737	19,054	10,900	Spencer, H. E.....	Edgerton, Alta.
Bow River.....	34,323	14,483	10,523	Garland, E. D.....	Rowley, Alta.
Calgary East.....	38,076	25,355	17,442	Stanley, G. D.....	Calgary, Alta.
Calgary West.....	40,122	27,669	19,879	Bennett, Rt. Hon. R. B.....	Calgary, Alta.
Camrose.....	38,274	17,462	10,970	Lucas, W. T.....	Lougheed, Alta.

¹Acclamation. ²Mr. J. F. Buckley was killed Nov. 27, 1931 and Mr. P. G. Davis was elected March 21, 1932.

Electoral Districts, Voters on Lists and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Seventeenth General Election—concluded.

Province and Electoral District.	Population, 1921.	Voters on List.	Votes Polled.	Name of Member.	P.O. Address.
Alberta—concluded.					
Edmonton East.....	36,263	22,466	15,007	Bury, A. U. G.....	Edmonton, Alta.
Edmonton West.....	38,748	25,365	18,275	Stewart, Hon. C. S.	Edmonton, Alta.
Lethbridge.....	38,079	17,555	12,579	Stewart, J. S.....	Lethbridge, Alta.
Macleod.....	33,826	18,844	13,093	Coote, G. G.....	Nanton, Alta.
Medicine Hat.....	36,395	14,071	9,205	Gershaw, F. W.....	Medicine Hat, Alta.
Peace River.....	39,727	31,741	18,732	Kennedy, D. McB..	Waterhole, Alta.
Red Deer.....	35,318	18,182	10,901	Speakman, A.....	Red Deer, Alta.
Vegreville.....	30,593	15,001	10,137	Luchkovich, M.....	Vegreville, Alta.
Wetaskiwin.....	34,785	17,610	12,003	Irvine, W.....	Bentley, Alta.
British Columbia—					
(14 members).					
Cariboo.....	39,834	22,197	16,889	Fraser, J. A.....	Quesnel, B.C.
Comox-Alberni.....	21,378	10,751	8,963	Neill, A. W.....	Alberni, B.C.
Fraser Valley.....	28,811	15,802	13,385	Barber, H. J.....	Chilliwack, B.C.
Kootenay East.....	19,137	10,834	9,212	McLean, M. D.....	Michel, B.C.
Kootenay West.....	30,502	17,911	14,150	Eshing, W. K.....	Rossland, B.C.
Nanaimo.....	48,010	28,593	20,598	Dickie, C. H.....	Duncan, B.C.
New Westminster.....	45,982	32,647	23,970	Reid, T.....	Newton (Surrey Municipality), B.C.
Skeena.....	28,934	11,770	9,733	Hanson, O.....	Prince Rupert, B.C.
Vancouver-Burrard.....	56,338	45,220	31,878	Hanbury, W.....	Vancouver, B.C.
Vancouver Centre.....	60,879	33,483	22,244	Mackenzie, Hon. I.	Vancouver, B.C.
Vancouver North.....	24,215	16,737	12,661	Munn, A. E.....	Vancouver, B.C.
Vancouver South.....	46,137	47,226	31,728	MacInnis, A.....	Vancouver, B.C.
Victoria.....	38,727	22,151	14,740	Plunkett, D'A. B.	Victoria, B.C.
Yale.....	35,698	18,004	13,480	Stirling, G.....	Kelowna, B.C.
Yukon Territory—					
(1 member).					
Yukon.....	4,157	1,719	1,408	Black, G.....	Dawson, Yukon.

¹Mr. M. D. McLean having accepted an office of emolument under the Crown, Hon. H. H. Stevens was elected by acclamation, Aug. 25, 1930.

Subsection 5.—The Dominion Franchise.¹

It was provided by the B.N.A. Act, 1867, that, until otherwise directed by Parliament, elections to the House of Commons should be governed by the electoral laws of the several provinces. The qualifications of electors throughout the Dominion consequently remained the same for both Dominion and provincial elections until, in 1885, Parliament legislated on the subject by passing the Electoral Franchise Act (1885, c. 40). That Act defined a uniform qualification for voters throughout Canada for Dominion purposes, the basis of this new franchise being the ownership or occupation of land of a specified value, although the sons of owners, and particularly farmers' sons, were given the right to vote on special conditions; each province, of course, continued separately to define the qualifications of voters at provincial elections. This Dominion franchise remained in force for thirteen years, but between 1898 and 1920, under the Franchise Act of the former year (1898, c. 14), the provincial franchises were again made applicable at Dominion elections, except that in the constitution of the provinces of Alberta and Saskatchewan it was provided that manhood suffrage, which had already been adopted for the Northwest Territories under an Act to amend the N.W.T. Act (1895, c. 16), should continue in force for

¹ Contributed by Oliver Mowat Biggar, K.C., formerly Chief Electoral Officer.

Dominion purposes independently of any action that might be taken by the newly elected Legislatures of these two provinces (R.S.C. 1906, c. 6, ss. 31-65). In the other provinces the rules as to the qualification of voters varied from time to time. In Manitoba manhood suffrage had been adopted in 1888 (1888, c. 2), and the franchise was extended to women on the same terms as to men in 1916 (1916, c. 36). Alberta and Saskatchewan, on their establishment as provinces, continued the previously existing manhood suffrage and both extended the franchise to women on the same terms as to men in 1916 (Alta. 1916, c. 5; Sask. 1916, c. 37). British Columbia adopted manhood suffrage in 1904 (1903-1904, c. 7), Ontario in 1907 (7 Edw. VII, c. 5), and New Brunswick in 1916 (6 Geo. V, c. 16); in British Columbia (1917, c. 23) and in Ontario (7 Geo. V, c. 5), the franchise was extended equally to women in 1917, and in New Brunswick this was done in 1919 (9 Geo. V, c. 63). In Quebec and Prince Edward Island the provincial franchises throughout the period in question were not so wide; in neither were women admitted to vote and certain property or other special qualifications were required in each. A property qualification was also required in Nova Scotia until 1920 (10-11 Geo. V, c. 49), but between 1918 and 1920 men and women had voted on equal terms (9 Geo. V, c. 3). The adoption of the provincial franchise laws for Dominion purposes was temporarily modified by the War Times Elections Act (1917, c. 39), which admitted certain near female relatives of serving soldiers and sailors to vote at Dominion elections, and three years later, on the adoption of a New Dominion Elections Act (1920, c. 46), the provincial franchises were again wholly abandoned and a new electoral qualification was established for Dominion elections throughout Canada. Subject to a modification of the usual rules as to changes of nationality, which was amended in 1921 (1921, c. 29, s. 3) and repealed in 1922 (1922, c. 20, s. 1), the right to vote was conferred by the new Act upon all British subjects, male and female, of 21 years and upwards, who had resided in Canada for a year, and for two months in the electoral district in which they desired to vote, this last restriction having been removed two years later (1922, c. 20), so far as it applied to general elections. The only adult British subjects who now are denied the right to vote are prisoners undergoing punishment, lunatics in institutions, Indians within the meaning of the Indian Act and not having served in the Great War, judges appointed by the Dominion Government, persons paid for work on behalf of a candidate in relation to the election, persons expressly disfranchised for corrupt or illegal practices and certain persons who by reason of their race are not permitted, under the law of the province in which they live, to vote at a provincial election in that province. The effect of this last exception is to exclude from the franchise only such Chinese, Japanese and East Indians as reside in British Columbia and did not serve in the Canadian forces during the war, and such Chinese as reside in the province of Saskatchewan and did not so serve. (See also R.S.C. 1927, c. 53, The Dominion Elections Act, as amended by c. 40 of 1929 and c. 16 of 1930.)

The Use of the Franchise.—The number of voters on the lists and the number of votes polled at the general elections of 1921, 1925, 1926 and 1930, are given in Table 9.

9.—Number of Voters and Votes Polled in the General Elections of 1921, 1925, 1926 and 1930.

Province.	Number of Voters on the List.				Number of Votes Polled.			
	1921.	1925.	1926.	1930.	1921.	1925.	1926.	1930.
Prince Edward Is.	46,879	45,454	46,208	46,985	52,556 ¹	49,558 ¹	55,569 ¹	59,519 ¹
Nova Scotia.....	294,473	277,073	273,712	275,762	260,860 ²	222,883 ²	229,846 ²	268,727 ²
New Brunswick....	204,575	211,190	210,028	207,006	156,263 ³	152,652 ³	162,777 ³	186,277 ³
Quebec.....	1,056,792	1,124,998	1,133,633	1,351,585	779,951	805,492	809,295	1,029,480
Ontario.....	1,738,020	1,821,906	1,847,512	1,894,624	1,139,635 ⁴	1,223,027 ⁴	1,226,267 ⁴	1,364,960 ⁴
Manitoba.....	255,143	250,505	257,244 ⁵	328,089	173,941	171,124	198,028 ⁵	235,192
Saskatchewan.....	333,613	346,791	353,471	410,400	225,236	197,246	246,460	331,652
Alberta.....	273,706	283,529	279,463	304,475	173,824	161,423	157,993	201,635
British Columbia..	230,451	244,352	262,262	333,326	156,012	183,748	185,345	243,631
Yukon.....	1,658	1,621	1,848	1,719	1,388	1,259	1,482	1,408
Totals.....	4,435,310	4,607,419	4,665,381⁵	5,153,971⁶	3,119,306	3,168,412	3,273,062⁵	3,922,481⁶

¹ Each voter in the double member constituency of Queens County, P.E.I., had two votes; in 1930, 20,382 voters on the list cast 35,776 votes. ² Each voter in the double member constituency of Halifax, N.S., had two votes; in 1930, 53,154 voters on the list cast 81,662 votes. ³ Each voter in the double member constituency of Saint John-Albert, N.B., had two votes; in 1930, 37,067 voters on the list cast 50,121 votes. ⁴ Each voter in the double member constituency of Ottawa, Ont., had two votes; in 1930, 61,535 voters on the list cast 97,369 votes. ⁵ Not including one electoral district in which the return was by acclamation. ⁶ Not including two electoral districts in which the returns were by acclamation.

Section 2.—Provincial Governments.

Table 10 gives the names and areas, as in 1931, of the several provinces, territories and provisional districts of the Dominion, together with the dates of their creation or admission into the Confederation and the legislative process by which this was effected.

10.—Provinces and Territories of Canada, with Present Areas, Dates of Admission to Confederation and Legislative Process by which Admission was Effected.

Province, Territory or District.	Date of Admission or Creation.	Legislative Process.	Present Area (square miles).		
			Land.	Water.	Total.
Ontario.....	July 1, 1867	{ Act of Imperial Parliament — The British North America Act, 1867 (30-31 Vict., c. 3), and Imperial Order in Council of May 22, 1867. }	363,282	49,300	412,582 ¹
Quebec.....	July 1, 1867		571,004	23,430	594,434 ²
Nova Scotia.....	" 1, 1867		20,743	685	21,428
New Brunswick....	" 1, 1867		27,710	275	27,985
Manitoba.....	" 15, 1870	Manitoba Act, 1870 (33 Vict., c. 3) and Imperial Order in Council, June 23, 1870.	224,777	27,055	251,832 ³
British Columbia..	" 20, 1871	Imperial Order in Council, May 16, 1871	349,970	5,885	355,855
Prince Edward Is.	" 1, 1873	Imperial Order in Council, June 26, 1873	2,184	—	2,184
Saskatchewan.....	Sept. 1, 1905	Saskatchewan Act, 1905 (4-5 Edw. VII, c. 42)	237,975	13,725	251,700 ⁴
Alberta.....	" 1, 1905	Alberta Act, 1905 (4-5 Edw. VII, c. 3).	248,800	6,485	255,285 ⁴
Yukon.....	June 13, 1898	Yukon Territory Act, 1898 (61 Vict., c. 6)	205,346	1,730	207,076
Mackenzie.....	Jan. 1, 1920	{ Order in Council, Mar. 16, 1918. }	493,225	34,265	527,490 ⁵
Keewatin.....	" 1, 1920		218,460	9,700	228,160 ⁵
Franklin.....	" 1, 1920		546,532	7,500	554,032 ⁶
Totals.....			3,510,008	180,035	3,690,043

¹ The area of Ontario was extended by the Ontario Boundaries Extension Act, 1912 (2 Geo. V, c. 40).
² Extended by Quebec Boundaries Extension Act, 1912 (2 Geo. V, c. 45), and diminished in consequence of the award of the Judicial Committee of the British Privy Council (Mar. 1, 1927), whereby some 112,400 square miles of territory, formerly considered as part of Quebec, were assigned to Newfoundland.

³ Extended by Extension of Boundaries of Manitoba Act, 1881, and Manitoba Boundaries Extension Act, 1912 (2 Geo. V, c. 32).

⁴ Alberta and Saskatchewan now cover approximately the area formerly comprised in the districts of Assiniboia, Athabaska, Alberta and Saskatchewan, established May 17, 1882, by minute of Canadian P.C., concurred in by Dominion Parliament and Order in Council of Oct. 2, 1895.

⁵ By an Order in Council of June 23, 1870, Rupert's Land, acquired under the Rupert's Lands Act of 1867 and 1868, and the undefined Northern Territories were admitted into the Confederation. The original Northwest Territories, mentioned in the Manitoba Act, 1870, were established by the Northwest Territories Act, 1880 (43 Vict., c. 25), the district of Keewatin having been previously defined by an Act of the Dominion Parliament (39 Vict., c. 21). The provisional districts of Yukon, Mackenzie, Franklin and Ungava were defined in an Order in Council of Oct. 2, 1895, their boundaries being changed by Order in Council of Dec. 18, 1897. By Order in Council of July 24, 1905, the area of Keewatin, not included in the Northwest Territories, was annexed to the latter from Sept. 1, 1905. By the Extension of Boundaries Act, 1912, Ungava was made a part of the province of Quebec, and the remaining area of the Northwest Territories south of 60° N. latitude was divided between Manitoba and Ontario.

In each of the provinces the King is represented by a Lieutenant-Governor appointed by the Governor General in Council, and governing with the advice and assistance of his Ministry or Executive Council, which is responsible to the Legislature and resigns office when it ceases to enjoy the confidence of that body. The Legislatures of all the provinces with the exception of Quebec are now unicameral, consisting of a Legislative Assembly elected by the people. In Quebec there is a Legislative Council as well as a Legislative Assembly. For detailed description of the Provincial Governments, the reader is referred to pp. 101-115 of the 1922-23 edition of the Year Book.

The Lieutenant-Governors of the provinces, together with the names of the Ministers of the present administrations, are given in Table 11. Details regarding Provincial Legislatures and Ministries since Confederation were given on pp. 75-84 of the 1924 Year Book.

¹The Legislative Council of Nova Scotia ceased to exist in 1928.

11.—Lieutenant-Governors of Provinces, 1867-1931, and Present Ministries.

NOTE.—The Lieutenant-Governor of a province is styled "His Honour" and is also styled "Honourable" throughout his life.

PRINCE EDWARD ISLAND.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
W. C. F. Robinson.....	June 10, 1873	D. A. McKinnon.....	Oct. 3, 1900
Sir Robert Hodgson.....	Nov. 22, 1873	Benjamin Rogers.....	June 1, 1914
Thomas H. Haviland.....	July 14, 1879	A. C. Macdonald.....	June 2, 1914
Andrew Archibald Macdonald.....	Aug. 1, 1884	Murdoek McKinnon.....	Sept. 3, 1914
Jedediah S. Carvell.....	Sept. 21, 1889	Frank R. Heartz.....	Sept. 8, 1923
Geo. W. Howlan.....	Feb. 21, 1894	Charles Dalton.....	Nov. 29, 1931
P. A. McIntyre.....	May 13, 1899		

SEVENTEENTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, Attorney and Advocate General.....	Hon. James D. Stewart, K.C.....	Aug. 29, 1923
Minister of Public Works and Highways.....	Hon. Leonard MacNeill.....	Aug. 29, 1923
Minister of Agriculture and Provincial Secretary-Treasurer.....	Hon. G. Shelton Sharp.....	Aug. 29, 1923
Minister of Education and Public Health.....	Hon. William J. P. MacMillan, M.D.....	Aug. 29, 1923
Minister without Portfolio.....	Hon. H. Francis McPhee, B.A.....	Aug. 29, 1923
Minister without Portfolio.....	Hon. Adrian F. Arseneault, B.A.....	Aug. 29, 1923
Minister without Portfolio.....	Hon. Harry D. MacLean.....	Aug. 29, 1923
Minister without Portfolio.....	Hon. Walter G. McKenzie.....	Aug. 29, 1923
Minister without Portfolio.....	Hon. Matthew W. Wood.....	Aug. 29, 1923

NOVA SCOTIA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Lieut.-Gen. Sir W. F. Williams.....	July 1, 1867	Alfred G. Jones.....	Aug. 7, 1900
Major-Gen. Sir C. Hastings Doyle.....	Oct. 18, 1867	Duncan C. Fraser.....	Mar. 27, 1913
Lieut.-Gen. Sir C. Hastings Doyle.....	Jan. 31, 1868 ²	James D. MacGregor.....	Oct. 18, 1919
Sir E. Kenny (acting).....	May 31, 1870	David MacKeen.....	Oct. 19, 1919
Joseph Howe.....	May 1, 1873	McCallum Grant.....	Nov. 29, 1919
Sir A. G. Archibald.....	July 4, 1873	McCallum Grant.....	Mar. 21, 1920
Matthew Henry Richey.....	July 4, 1883	J. Robson Douglas.....	Jan. 23, 1919
A. W. McLelan.....	July 9, 1888	James C. Tory.....	Sept. 24, 1919
Sir Malachy Bowes Daly.....	July 11, 1890	Frank Stanfield.....	Dec. 2, 1919
Sir Malachy Bowes Daly.....	July 29, 1895 ²	Walter H. Covert.....	Oct. 5, 1919

²Second term.

11.—Lieutenant-Governors of Provinces, 1867-1931, and Present Ministries—con.

NOVA SCOTIA—concluded.

ELEVENTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier and President of Council.....	Col. the Hon. G. S. Harrington.....	Aug. 11, 1930
Minister of Public Works and Mines.....	Col. the Hon. G. S. Harrington.....	Aug. 11, 1930
Attorney-General.....	Hon. John Doull.....	Oct. 9, 1931
Provincial Secretary.....	Hon. J. F. Fraser.....	Oct. 9, 1931
Minister of Agriculture.....	Hon. O. P. Goucher.....	Aug. 11, 1930
Minister of Highways.....	Hon. P. C. Black.....	Aug. 11, 1930
Minister of Public Health.....	Hon. Geo. H. Murphy, M.D., C.M.....	Aug. 11, 1930
Minister without Portfolio.....	Hon. Albert Parsons.....	Aug. 11, 1930
Minister without Portfolio.....	Hon. Joseph Macdonald.....	Oct. 9, 1931

NEW BRUNSWICK.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Major-Gen. Sir C. Hastings Doyle.....	July 1, 1867	A. R. McClelan.....	Dec. 9, 1896
Col. F. P. Harding.....	Oct. 18, 1867	Jabez B. Snowball.....	Feb. 5, 1902
L. A. Wilmot.....	July 14, 1868	L. J. Tweedie.....	Mar. 2, 1907
Samuel Leonard Tilley.....	Nov. 5, 1873	Josiah Wood.....	Mar. 6, 1912
E. Baron Chandler.....	July 16, 1878	G. W. Ganong.....	June 29, 1916
Robert Duncan Wilmot.....	Feb. 11, 1880	William Pugsley.....	Nov. 6, 1917
Sir Samuel Leonard Tilley.....	Oct. 31, 1885	William F. Todd.....	Feb. 24, 1923
John Boyd.....	Sept. 21, 1893	Major-Gen. Hugh H. McLean.....	Dec. 28, 1928
John A. Fraser.....	Dec. 20, 1893		

SEVENTEENTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier and Attorney-General.....	Hon. C. D. Richards.....	May 20, 1931
President of Council.....	Hon. W. H. Harrison.....	May 20, 1931
Minister of Public Works.....	Hon. D. A. Stewart.....	Sept. 14, 1925
Provincial Secretary-Treasurer.....	Hon. A. J. Leger.....	Sept. 14, 1925
Minister of Lands and Mines.....	Hon. L. P. D. Tilley.....	May 20, 1931
Minister of Agriculture.....	(Vacant)	—
Minister of Health.....	Hon. H. I. Taylor.....	Sept. 14, 1925
Minister without Portfolio.....	Hon. E. A. Reilly.....	Sept. 14, 1925

QUEBEC.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Sir N. F. Belleau.....	July 1, 1867	L. A. Jetté.....	Feb. 2, 1903 ¹
Sir N. F. Belleau.....	Jan. 31, 1868 ¹	Sir Charles A. P. Pelletier.....	Sept. 4, 1908
Réné Edouard Caron.....	Feb. 11, 1873	Sir François Langelier.....	May 5, 1911
Lue Letellier de St-Just.....	Dec. 15, 1876	Sir Pierre E. Leblanc.....	Feb. 9, 1915
Theodore Robitaille.....	July 26, 1879	Right Hon. Sir Charles Fitzpatrick.....	Oct. 21, 1918
L. F. R. Masson.....	Nov. 7, 1884	L. P. Brodeur.....	Oct. 31, 1923
A. R. Angers.....	Oct. 24, 1887	N. Perodeau.....	Jan. 8, 1924
Sir J. A. Chapleau.....	Dec. 5, 1892	Sir Lomer Gouin.....	Jan. 10, 1929
L. A. Jetté.....	Feb. 2, 1898	H. G. Carroll.....	April 2, 1929

¹ Second term.

11.—Lieutenant-Governors of Provinces, 1867-1931, and Present Ministries—con.

QUEBEC—concluded.

EIGHTEENTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, Attorney-General, Minister of Municipal Affairs and Treasurer.....	Hon. L. A. Taschereau.....	July 9, 1920
Minister of Agriculture.....	Hon. A. Godbout.....	Nov. 27, 1920
Minister of Lands and Forests.....	Hon. H. Mercier.....	July 9, 1920
Minister of Public Works and Labour.....	Hon. J. N. Francoeur.....	June 15, 1920
Minister of Colonization, Game and Fisheries.....	Hon. H. La Ferté.....	April 24, 1920
Provincial Secretary and Registrar.....	Hon. A. David.....	July 9, 1920
Minister of Roads and Mines.....	Hon. J. Ed. Perrault.....	April 24, 1920
Minister of Labour.....	Hon. C.-Y. Arcand.....	Oct. 23, 1921
Minister without Portfolio.....	Hon. E. Moreau.....	Sept. 27, 1921
Minister without Portfolio.....	Hon. L. Lapierre.....	June 4, 1924
Minister without Portfolio.....	Hon. J. H. Dillon.....	Jan. 10, 1927
Minister without Portfolio.....	Hon. N. Perodeau.....	Dec. 5, 1929
Minister without Portfolio.....	Hon. G. Bryson.....	Oct. 23, 1931

ONTARIO.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
Major-General H. W. Stisted.....	July 1, 1867	Sir Oliver Mowat.....	Nov. 18, 1897
W. P. Howland.....	July 14, 1868	Sir William Mortimer Clark.....	April 20, 1903
John W. Crawford.....	Nov. 5, 1873	Sir John M. Gibson.....	Sept. 22, 1908
D. A. Macdonald.....	May 18, 1875	Lt.-Col. Sir John S. Hendrie.....	Sept. 26, 1914
John Beverly Robinson.....	June 30, 1880	Lionel H. Clarke.....	Nov. 27, 1919
Sir Alexander Campbell.....	Feb. 8, 1887	Col. Henry Cockshutt.....	Sept. 10, 1921
Sir George A. Kirkpatrick.....	May 30, 1892	William Donald Ross.....	Dec. 30, 1926

TENTH MINISTRY.

Office.	Name.	Date of Appointment.
Prime Minister and Minister of Education.....	Hon. George S. Henry.....	Dec. 16, 1930
Minister of Highways.....	Hon. Leopold Macaulay.....	July 31, 1931
Attorney-General.....	Hon. William H. Price.....	Dec. 16, 1930
Provincial Secretary and Registrar.....	Hon. George H. Challies.....	July 31, 1931
Provincial Treasurer.....	Hon. Edward A. Dunlop.....	Dec. 16, 1930
Minister of Mines.....	Hon. Charles McCrear.....	Dec. 16, 1930
Minister of Public Works and Labour.....	Hon. J. D. Monteith.....	Dec. 16, 1930
Minister of Lands and Forests.....	Hon. Wm. Finlayson.....	Dec. 16, 1930
Minister of Public Health.....	Hon. John M. Robb.....	Dec. 16, 1930
Minister of Agriculture.....	Hon. Thomas L. Kennedy.....	Dec. 16, 1930
Minister of Public Welfare.....	Hon. William G. Martin.....	Dec. 16, 1930
Minister without Portfolio.....	Hon. John R. Cooke.....	Dec. 16, 1930
Minister without Portfolio.....	Hon. Paul Poisson.....	Dec. 23, 1930
Minister without Portfolio.....	Hon. Henry C. Scholfield.....	Dec. 23, 1930

11.—Lieutenant-Governors of Provinces, 1867-1931, and Present Ministries—con.

MANITOBA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
A. G. Archibald.....	May 20, 1870	Sir D. H. McMillan.....	Oct. 16, 1900
Francis Goodschall Johnson.....	April 9, 1872	Sir D. H. McMillan.....	May 11, 1906 ¹
Alexander Morris.....	Dec. 2, 1872	Sir D. C. Cameron.....	Aug. 1, 1911
Joseph Ed. Cauchon.....	Dec. 2, 1877	Sir James A. M. Aikins.....	Aug. 3, 1916
James C. Aikins.....	Sept. 22, 1882	Sir James A. M. Aikins.....	Aug. 7, 1921 ¹
J. C. Schultz.....	July 1, 1883	Theodore A. Burrows.....	Oct. 9, 1926
J. C. Patterson.....	Sept. 2, 1895	J. D. McGregor.....	Jan. 25, 1929

¹Second term.

TWELFTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, President of the Council and Provincial Treasurer.....	Hon. John Bracken.....	Aug. 8, 1922 Jan. 12, 1925
Attorney-General and Minister of Telephones and Telegraphs.....	Hon. W. J. Major, K.C.....	April 29, 1927
Minister of Public Works.....	Hon. W. R. Clubb.....	Aug. 8, 1922
Municipal Commissioner and Provincial Secretary.....	Hon. D. L. McLeod.....	Aug. 8, 1922
Minister of Agriculture and Immigration and Railway Commissioner.....	Hon. A. Préfontaine.....	Jan. 12, 1925
Minister of Education.....	Hon. R. A. Hoey.....	April 21, 1927
Minister of Health and Public Welfare.....	Hon. E. W. Montgomery, M.D.....	July 12, 1928
Minister of Mines and Natural Resources.....	Hon. D. G. McKenzie.....	Oct. 22, 1928

SASKATCHEWAN.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
A. E. Forget.....	Sept. 1, 1905	H. W. Newlands.....	Feb. 17, 1921
Geo. W. Brown.....	Oct. 5, 1910	H. W. Newlands.....	Feb. 22, 1926 ¹
Sir Richard Stuart Lake.....	Oct. 6, 1915	Lieut.-Col. H. E. Monroe, O.B.E.	Mar. 31, 1931

¹Second term.

FIFTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier, President of Council, Minister of Education and Minister of Natural Resources.	Hon. J. T. M. Anderson, M.A., LL.B., D. Pæd.....	Sept. 9, 1929
Minister of Municipal Affairs and Minister in Charge of the King's Printer's Office and Bureau of Publications, Loan and Trust Companies Act.....	Hon. Howard McConnell, B.A., LL.B., K.C.....	Sept. 9, 1929
Attorney-General.....	Hon. M. A. MacPherson, B.A., LL.B., K.C.....	Sept. 9, 1929
Minister of Public Works, Minister of Telephones and Telegraphs, Minister in charge of Fire Prevention Act, Prairie and Forest Fires Act, Insurance Act.....	Hon. J. F. Bryant, M.A., LL.B., K.C.....	Sept. 9, 1929
Minister of Public Health and Minister in charge of the Child Welfare Act.....	Hon. F. D. Munroe, M.D.....	Sept. 9, 1929
Provincial Secretary, Minister of Railways, Labour and Industries.....	Hon. J. A. Merkley.....	Sept. 9, 1929
Minister of Agriculture.....	Hon. W. C. Buckle.....	Sept. 9, 1929
Minister of Highways.....	Hon. A. C. Stewart, LL.B., K.C.....	Sept. 9, 1929
Minister without Portfolio.....	Hon. Reginald Stipe, M.D.....	Sept. 9, 1929
Minister without Portfolio.....	Hon. W. W. Smith.....	Sept. 9, 1929

11.—Lieutenant-Governors of Provinces, 1867-1931, and Present Ministries—con.

ALBERTA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
George H. V. Bulyea.....	Sept. 1, 1905	Robert George Brett.....	Oct. 20, 1920 ¹
George H. V. Bulyea.....	Oct. 5, 1910 ¹	William Egbert.....	Oct. 20, 1925
Robert George Brett.....	Oct. 6, 1915	William L. Walsh.....	April 24, 1931

¹Second term.

FIFTH MINISTRY.

Office.	Name.	Date of Appointment.
Premier.....	Hon. J. E. Brownlee.....	Nov. 23, 1925
Provincial Secretary.....	Hon. J. F. Lymburn.....	June 5, 1925
Attorney-General.....	Hon. R. G. Reid.....	June 5, 1925
Provincial Treasurer.....	Hon. Geo. Hoadley.....	Nov. 23, 1925
Minister of Lands and Mines.....	Hon. Vernor W. Smith.....	Oct. 1, 1931
Minister of Municipal Affairs.....	Hon. O. L. McPherson.....	Nov. 23, 1925
Minister of Agriculture.....	Hon. Perrin Baker.....	Nov. 23, 1925
Minister of Public Health.....	Hon. Irene Parlbay.....	Nov. 23, 1925
Minister of Railways and Telephones.....		
Minister of Public Works.....		
Minister of Education.....		
Minister without Portfolio.....		

¹ First appointed in the Hon. H. Greenfield's Ministry on Nov. 3, 1923. ² First appointed in the Hon. H. Greenfield's Ministry on Aug. 13, 1921.

BRITISH COLUMBIA.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
J. W. Trutch.....	July 20, 1871	James Dunsmuir.....	May 11, 1906
Albert Norton Richards.....	July 20, 1876	T. W. Paterson.....	Dec. 3, 1909
Clement F. Cornwall.....	July 20, 1881	Sir Frank S. Barnard.....	Dec. 5, 1914
Hugh Nelson.....	Feb. 8, 1887	Col. Edward G. Prior.....	Dec. 9, 1919
Edgar Dewdney.....	Nov. 1, 1892	Walter C. Nichol.....	Dec. 24, 1920
Thomas R. McInnes.....	Nov. 18, 1897	R. Randolph Bruce.....	Jan. 21, 1926
Sir Henry G. Joly de Lotbinière.....	June 21, 1900	J. W. Fordham Johnson.....	Aug. 1, 1931

TWENTY-FIRST MINISTRY.

Office.	Name.	Date of Appointment.
Premier and Minister of Railways.....	Hon. S. F. Tolmie.....	Aug. 21, 1928
Provincial Secretary and Commissioner of Fisheries.....	Hon. S. L. Howe.....	Aug. 21, 1928
Attorney-General.....	Hon. E. H. Pooley, K.C.....	Aug. 21, 1928
Minister of Lands.....	Hon. N. S. Lougheed.....	Oct. 29, 1930
Minister of Finance and Minister of Industries.....	Hon. J. W. Jones.....	Oct. 29, 1930
Minister of Agriculture.....	Hon. William Atkinson.....	Aug. 21, 1928
Minister of Mines and Minister of Labour.....	Hon. W. A. McKenzie.....	Aug. 21, 1928
Minister of Public Works.....	Hon. R. W. Bruhn.....	Oct. 29, 1930
Minister of Education.....	Hon. J. Hinchliffe.....	Aug. 21, 1928
President of the Council.....	Hon. W. C. Shelly.....	Oct. 29, 1930
Minister without Portfolio.....	Hon. R. L. Maitland, K.C.....	Aug. 21, 1928

11.—Lieutenant-Governors of Provinces, 1867-1931, and Present Ministries—concluded.

THE TERRITORIES.

NOTE.—In 1888 the districts of Alberta, Assiniboia, Athabaska and Saskatchewan, then called the Northwest Territories, with their capital at Regina, were given local responsible government, and the old Northwest Council was replaced by the Northwest Legislature, which existed until Aug. 31, 1905. When the area included in these districts was formed into the provinces of Alberta and Saskatchewan on Sept. 1, 1905, these provinces were given systems of government similar to the other provinces of the Dominion. The remaining areas (the Yukon Territory and the provisional districts of Franklin, Keewatin and Mackenzie) are now administered by the North West Territories and Yukon Branch of the Department of the Interior. The Deputy Minister of the Department is, *ex officio*, the Commissioner of the Northwest Territories which comprises the three provisional districts.

LIEUTENANT-GOVERNORS.

Name.	Date of Appointment.	Name.	Date of Appointment.
A. G. Archibald.....	May 10, 1870	Joseph Royal.....	July 1, 1888
Francis Goodschall Johnson.....	April 9, 1872	C. H. Mackintosh.....	Oct. 31, 1893
Alexander Morris.....	Dec. 2, 1872	M. C. Cameron.....	May 30, 1898
David Laird.....	Oct. 7, 1876	A. E. Forget.....	Oct. 11, 1898
Edgar Dewdney.....	Dec. 3, 1881	A. E. Forget.....	Mar. 30, 1904 ¹

¹Second term.

PART IV.—REPRESENTATIVES IN OTHER COUNTRIES.

Section 1.—Representatives within the Empire.

The policy of the early North American colonies, of maintaining in London accredited representatives for business and diplomatic purposes, was recognized in the eighteenth century as being a more satisfactory means of communication with the British Government than that provided by occasional official visits or by correspondence. Edmund Burke, the noted British statesman, held the position of agent for the colony of New York for some years following 1771. Of the Canadian colonies, Nova Scotia was the first to adopt this plan, its Legislature having appointed an agent in London in 1761. New Brunswick was similarly represented in 1786, Upper Canada as early as 1794, Lower Canada in 1812 and British Columbia in 1857. For some years after 1845, several of the colonies were represented in London by Crown agents, appointed by the Secretary of State, and paid by the colonies themselves. This system, however, was of but short duration.

The older provinces of Quebec, Ontario and British Columbia still adhere to the practice of former days and are represented in London by Agents-General, as is also the province of Alberta. These officials are appointed by the Legislatures of the provinces under general authority given in the British North America Act and act for their Governments in capacities very similar to that of the High Commissioner, with the exception, perhaps, that their duties have tended to become of a business rather than a diplomatic nature.

The High Commissioner for Canada.—With the federation of the provinces of British North America in 1867, a new political entity which could not avail itself of the services of the provincial agents was brought into existence. To supplement the ordinary method of communication between the Canadian and British Governments (which at that time was by correspondence between the Governor General and

the Secretary of State for the Colonies, and is now between the Secretary of State for External Affairs of Canada and the Secretary of State for Dominion Affairs in Great Britain), the position of High Commissioner for Canada was created in 1880 (see R.S.C. 1927, c. 92). The duties of the office are defined in the Act as follows:—

“The High Commissioner shall—

- “(a) act as representative and resident agent of Canada in Great Britain and, in that capacity, execute such powers and perform such duties as are, from time to time, conferred upon and assigned to him by the Governor in Council;
- “(b) take the charge, supervision and control of the immigration offices and agencies in Great Britain, under the Minister of Immigration and Colonization;
- “(c) carry out such instructions as he, from time to time, receives from the Governor in Council respecting the commercial, financial and general interests of Canada in Great Britain and elsewhere.”

Sir Alexander Galt was the first Canadian High Commissioner, holding office from May 11, 1880, until May, 1883; in 1884 he was succeeded by Sir Charles Tupper. Lord Strathcona and Mount Royal was appointed in 1896. Sir George H. Perley took charge of the High Commissioner's Office in 1914 but was appointed High Commissioner only on Oct. 12, 1917. The Hon. P. C. Larkin was appointed in February, 1922, and after his decease (Feb. 3, 1930) the Hon. G. Howard Ferguson was appointed on Nov. 28, 1930.

The office of the High Commissioner for Canada is in the Canadian Building, Trafalgar Square, London, S.W. 1.

His Majesty's Government in Great Britain in April, 1928, appointed a High Commissioner for Great Britain in Canada, Sir William H. Clark, who resides in Ottawa, and whose position corresponds to that of the High Commissioner for Canada in Great Britain. This appointment was made in consequence of discussions at the Imperial Conference of 1926. The relevant passage in the report of the Inter-Imperial Relations Committee runs as follows:—

“A special aspect of the question of consultation which we considered was that concerning the representation of Great Britain in the Dominions. By reason of his constitutional position, as explained in section IV (b) of this report, the Governor General is no longer the representative of His Majesty's Government in Great Britain. There is no one therefore in the Dominion capitals in a position to represent with authority the views of His Majesty's Government in Great Britain.

“We summed up our conclusions in the following resolution which is submitted for the consideration of the Conference:—

“The Governments represented at the Imperial Conference are impressed with the desirability of developing a system of personal contact, both in London and in the Dominion capitals, to supplement the present system of intercommunication and the reciprocal supply of information on affairs requiring joint consideration. The manner in which any new system is to be worked out is a matter for consideration and settlement between His Majesty's Government in Great Britain and the Dominions, with due regard to the circumstances of each particular part of the Empire, it being understood that any new arrangements should be supplementary to, and not in replacement of, the system of direct communication from Government to Government and the special arrangements which have been in force since 1918 for communications between Prime Ministers.”

Section 2.—Representatives outside the Empire.

The Canadian Minister to the United States.—For many years the diplomatic business between Canada and the United States has been steadily increasing, as the natural result of the proximity of the two countries and the closeness of the business relationships between their citizens. Before the Great War a former British Ambassador at Washington, Lord Bryce, said that between two-thirds and three-quarters of the work of the British Embassy in the United States was occasioned by Canadian affairs.

In January, 1918, a temporary Canadian War Mission was established at Washington under the chairmanship of Mr. Lloyd Harris, and was maintained for some years after the close of the war. Though not a formal diplomatic mission, its duties extended to questions usually dealt with through the diplomatic channel. After the retirement of this mission Canada was represented in Washington by Mr. M. M. Mahoney, who acted as agent of the Department of External Affairs, and, through the courtesy of the British Government, occupied an office at the British Embassy.

In 1920, following discussions between the British and Canadian Governments, it was announced that agreement had been reached upon the appointment of a Canadian Minister at Washington, who would act for the British Ambassador in the latter's absence. No appointment was made until Nov. 26, 1926, when, after decision to omit the arrangement that the Canadian Minister should substitute for the British Ambassador, Hon. Charles Vincent Massey was appointed as His Majesty's Envoy Extraordinary and Minister Plenipotentiary in the United States of America to represent the interests of the Dominion of Canada (P.C. 1780 of Nov. 10, 1926). Mr. Massey took up his duties in February, 1927 and held office until July 23, 1930. Major W. D. Herridge, K.C., D.S.O., M.C., was appointed Minister to Washington, Mar. 7, 1931. The Canadian Legation in Washington is situated at 1746 Massachusetts Ave. The United States Government reciprocated in 1927 by appointing Hon. William Phillips its first Minister to Canada. Hon. Mr. Phillips resigned in December, 1929; his successor, Lt.-Col. the Hon. Hanford MacNider, was appointed in August, 1930.

The Canadian Minister to France.—For many years the Canadian Government maintained an agency at Paris. The post was first occupied in 1882 by Hon. Hector Fabre, who also represented for a time the Government of Quebec. After his death Hon. Philippe Roy was appointed in May, 1911, with the title of Commissioner-General of Canada in France. In 1928 an exchange of Ministers was agreed upon between Canada and France, and in September of that year Hon. Philippe Roy was appointed as His Majesty's Envoy Extraordinary and Ministre Plenipotentiary in France to represent the interests of the Dominion of Canada. The Canadian Legation in Paris is situated at No. 1, rue François premier.

The French Government appointed M. Georges Jean Knight as its first Minister in Canada in 1928. On July 1, 1930, he was reappointed to the French Foreign Office, and on Mar. 12, 1931, M. Charles Arsène Henry was appointed his successor.

The Canadian Minister to Japan.—In 1928 an exchange of Ministers was agreed upon between the Governments of Canada and Japan, and Hon. H. M. Warler was appointed in 1929 as His Majesty's Envoy Extraordinary and Minister Plenipotentiary in Japan to represent the interests of the Dominion of Canada.

The Japanese Government appointed Mr. Iyemasa Tokugawa as its first Minister in Canada in 1929.

Canadian Advisory Officer, League of Nations.—The precedent of appointing permanent representatives at Geneva accredited to the League of Nations was set, it is understood, by Japan, and has found favour especially among those nations which are situated at a distance from Geneva. It was found that, while countries adjacent to the seat of the League were able without difficulty to include in the personnel of their delegations to the Assembly and Council various advisors and assistants at a minimum of expense, distant countries were at a disadvantage in this respect. Canada's duties as a member of the Assembly and of the International Labour Conference, and as one of the eight countries represented on the Governing Body of the International Labour Office, made this disadvantage especially felt. Accordingly the position of Dominion of Canada Advisory Officer, League of Nations, was created by Order in Council P.C. 2174 of Dec. 17, 1924, and Dr. W. A. Riddell was appointed to the post on Jan. 1, 1925.

The duties of the Canadian Advisory Officer are "to establish and maintain as close relations as possible with the Secretariats of the League of Nations and the International Labour Office", to "communicate with the Government of Canada as to all matters arising and requiring its attention", and to "act in all such matters in an advisory capacity to the Government of Canada and to delegates from the Government of Canada to conferences arising out of the organizations before-named".

The office of the Canadian Advisory Officer is situated at 41, Quai Wilson, Geneva.

PART V.—CANADA AND THE LEAGUE OF NATIONS.

The League of Nations is an association of States which have pledged themselves, through signing the Covenant (*i.e.*, the constitution of the League), not to go to war before submitting their disputes with each other or States not Members of the League to arbitration or inquiry and a delay of from three to nine months. Furthermore, any State violating this pledge is automatically in a state of outlawry with the other States, which are bound to sever all economic and political relations with the defaulting member. The States Members of the League have pledged themselves to co-operate over a wide range of economic, social, humanitarian and labour questions.

The League of Nations came formally into existence on Jan. 10, 1920, through the coming into force of the Treaty of Versailles. The two official languages of the League are English and French. The seat of the League is Geneva, Switzerland. Canada, as a signatory of the Treaty of Versailles, has been a Member of the League from the beginning.

The Organs of the League.—The primary organs of the League are : (1) The Council; (2) The Assembly; (3) The Secretariat; (4) The International Labour Organization (see Chap. XIX); (5) The Permanent Court of International Justice.

¹ A fuller article on Canada and the League of Nations, contributed by N. A. Robertson of the Department of External Affairs to the 1931 Year Book, gave the names of the States Members of the League, information regarding the budget of the League, mandates, minorities, the economic and financial organization, the organization for communications and transit, the health organization and social and humanitarian work of the League, in addition to fuller treatments of the subjects here dealt with. This article appeared at pp. 115 to 122 of the 1931 Year Book. The text of the Covenant of the League of Nations and the General Act for the Pacific Settlement of International Disputes, may be obtained from the King's Printer, Ottawa, price 25 cents.

The Council.—The Council now consists of five permanent members (the British Empire, France, Italy, Japan and Germany), together with nine non-permanent Members elected for three years (three retiring each year) from among the fifty-four States which are Members of the League. The non-permanent Members of the Council are at present as follows: Peru, Poland and Yugoslavia, terms expiring 1932; Guatemala, Irish Free State and Norway, terms expiring 1933; Panama, China and Spain, terms expiring 1934. Canada was a Member of the Council of the League from 1927 to 1930, and in 1928 was represented at the meeting of the Council by the then Prime Minister, Rt. Hon. W. L. Mackenzie King.

The Assembly.—Every State Member of the League is entitled to be represented by a delegation to the Assembly composed of not more than three delegates and three substitute delegates, but it has only one vote. It meets at the seat of the League (Geneva) on the first Monday in September. In 1930 the Canadian delegation was headed by Rt. Hon. Sir R. L. Borden and in 1931 by the Hon. Hugh Guthrie.

The Secretariat.—The Secretariat is a permanent organ composed of the Secretary-General and a number of officials selected from among citizens of all Member States and from the United States of America. The Secretary-General, appointed by the Peace Conference, is the Hon. Sir James Eric Drummond, K.C.M.G., C.B.; hereafter the Secretary-General will be appointed by the Council with the approval of the majority of the Assembly. The other officials are appointed by the Secretary-General with the approval of the Council.

Permanent Court of International Justice.—The Permanent Court of International Justice was established by the Protocol of Dec. 16, 1920, in accordance with Article 14 of the Covenant of the League of Nations. It is composed of a body of fifteen judges elected by the Assembly and Council of the League of Nations for a term of nine years, and sits at the Hague. The Court is competent to hear and determine any dispute of an international character which the parties thereto submit to it; it may also give an advisory opinion upon any dispute or question referred to it by the Council or the Assembly. Article 36 of the Statute of the Court provides that any State may recognize as compulsory the jurisdiction of the Court in all or any classes of legal dispute concerning:—

- (a) The interpretation of a Treaty.
- (b) Any question of international law.
- (c) The existence of any fact which, if established, would constitute a breach of an international obligation, and the nature and extent of the reparations to be made for the breach of the international obligation.

Canada has been a Member of the Court from its inception, and in 1929 accepted, subject to certain reservations, the compulsory jurisdiction of the Court in the cases contemplated in Article 36.

CHAPTER IV.—POPULATION.¹

The Population chapter of the Year Book contains a *précis* of the results of investigations into the number and the constitution of the population made in the censuses of Canada since Confederation, summarizing the growth and distribution of population between 1871 and 1931, as shown by the successive decennial censuses in regard to the chief matters investigated at the censuses.

The modern census, now established in all civilized countries as the chief method of measuring periodically the population and its social and economic phenomena, has been described by a modern United States writer as the greatest single peace-time activity in which the government engages, both in respect of the physical extent of its organization and the important part which its results play in the general administration of public affairs.

Under the Canadian constitution, the legal *raison d'être* of the census is to determine representation in the House of Commons; after each decennial census a redistribution of seats in the House, following the course of the movement of population, is made in the manner described on pp. 71-73 of this volume. (See also pp. 72-74 of the 1924 Year Book.) But the census, especially since the introduction of methods of mechanical tabulation, has become far more than a mere counting of heads. It is a great periodical stock-taking of the people and their affairs, designed to show as fully as possible the stage which has been reached in the progress of the nation. Thus the numbers, local distribution, age, sex, racial origin, nationality, language, religion, education, housing and occupations of the people, severally constitute investigations of enormous importance, to which all the continuous and routine statistics collected in the ordinary course of administration must be related if their importance is to be realized. The census, in fine, rounds out and completes the scheme of information upon which the Government relies in conducting the affairs of the country.

On account of the requirements as to parliamentary representation and the payment of provincial subsidies, which are based on population, the Canadian census is taken on the *de jure* principle; *i.e.*, each person is counted as belonging to the locality in which he is regularly domiciled, irrespective of where he may be at the date of the enumeration. Under the *de facto* method adopted in the United Kingdom each individual is counted as belonging to the locality where he is found on the census date. The *de facto* method is undoubtedly simpler, but the *de jure* plan better portrays the permanent condition of the population. The chief difficulty in the application of the latter method is found in connection with holiday resorts, in the segregation of "visitors" and the tracing of "absentees"; a date prior to the opening of the holiday season is accordingly chosen for the date of the census. In the Canadian census, students and inmates of hospitals are assigned to their home localities, while inmates of prisons, jails, lunatic asylums, etc., are counted where found.

Section 1.—Census Statistics of General Population.

Since the creation of the Dominion of Canada, in 1867, decennial censuses have been taken on the *de jure* plan as of the dates April 2, 1871, April 4, 1881, April 5, 1891, April 1, 1901, June 1, 1911, 1921, and 1931. The population of Canada and its percentage distribution as on these dates, together with the absolute and percentage increases from decade to decade, are given in Tables 1 to 4 immediately following.

¹ This chapter has been revised by E. S. Macphail, Chief, Demography Branch, Dominion Bureau of Statistics. A list of the publications of this branch will be found in Chapter XXIX, Section I, under "Population".

1.—Population of Canada by Provinces and Territories in the Census Years 1871 to 1931.¹

Province or Territory.	1871.	1881.	1891.	1901.	1911.	1921.	1931.
Prince Edward Island.....	94,021	108,891	109,078	103,259	93,728	88,615	88,038
Nova Scotia.....	387,800	440,572	450,396	459,574	492,338	523,837	512,846
New Brunswick.....	285,594	321,233	321,263	331,120	351,889	387,876	408,219
Quebec.....	1,191,516	1,359,027	1,488,535	1,648,898	2,035,776 ²	2,360,665 ³	2,874,255
Ontario.....	1,620,851	1,926,922	2,114,321	2,182,947	2,527,292 ²	2,938,662	3,431,683
Manitoba.....	25,228	62,260	152,506	255,211	461,394 ²	610,118	700,139
Saskatchewan.....	—	—	—	91,279	492,432	757,510	921,785
Alberta.....	—	—	—	73,022	374,295 ³	588,454	731,605
British Columbia.....	36,247	49,459	98,173	178,657	392,480	524,582	694,263
Yukon Territory.....	—	—	—	27,219	8,512	4,157	4,230
Northwest Territories ⁴	48,000	56,446	98,967	20,129	6,507 ²	7,988	7,133
Royal Canadian Navy.....	—	—	—	—	—	485	⁵
Totals.....	3,689,257	4,324,810	4,833,239	5,371,315	7,206,643	8,787,949⁵	10,374,196

2.—Percentage Distribution of Canadian Population, by Provinces and Territories, 1871 to 1931.

Province or Territory.	1871.	1881.	1891.	1901.	1911.	1921.	1931.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Prince Edward Island.....	2.55	2.52	2.25	1.92	1.30	1.01	0.85
Nova Scotia.....	10.51	10.19	9.32	8.56	6.83	5.96	4.94
New Brunswick.....	7.74	7.43	6.65	6.16	4.88	4.41	3.93
Quebec.....	32.30	31.42	30.80	30.70	27.83	26.86	27.71
Ontario.....	43.94	44.56	43.74	40.64	35.07	33.39	33.08
Manitoba.....	0.68	1.44	3.16	4.75	6.40	6.94	6.75
Saskatchewan.....	—	—	—	1.70	6.84	8.62	8.88
Alberta.....	—	—	—	1.86	5.19	6.70	7.05
British Columbia.....	0.98	1.14	2.03	3.33	5.45	5.97	6.70
Yukon Territory.....	—	—	—	0.51	0.12	0.05	0.04
Northwest Territories ⁴	1.30	1.30	2.05	0.37	0.09	0.09	0.07
Totals.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0

3.—Population of Canada, by Provinces and Territories, in 1871 and 1931, Numerical Increase in each Decade from 1871 to 1931 and Total Increase.

Province or Territory.	Popula- tion in 1871.	Increase in each Decade from 1871 to 1931.						Popula- tion in 1931.	Increase, 1871 to 1931.
		1871 to 1881.	1881 to 1891.	1891 to 1901.	1901 to 1911.	1911 to 1921.	1921 to 1931.		
P.E.I.....	94,021	14,870	187	—5,819	—9,531	—5,113	—577	88,038	—5,983
N.S.....	387,800	52,772	9,824	9,178	32,764	31,499	—10,991	512,846	125,046
N.B.....	285,594	35,639	30	9,857	20,769	35,987	20,343	408,219	122,625
Que.....	1,191,516	167,511	129,508	160,363	356,878	354,889 ⁵	513,590	2,874,255	1,682,739
Ont.....	1,620,851	306,071	187,399	68,626	344,345	406,370	498,021	3,431,683	1,810,832
Man.....	25,228	37,032	90,246	102,705	206,183	148,724	90,021	700,139	674,911
Sask.....	—	—	—	91,279	401,153	265,078	104,275	921,785	921,785
Alta.....	—	—	—	73,022	301,273	214,159	143,151	731,605	731,605
B.C.....	36,247	13,212	48,714	80,484	213,823	132,102	169,681	694,263	658,016
Yukon.....	—	—	—	27,219	—18,707	—4,355	73	4,230	4,230
N.W.T. ⁴	48,000	8,446	42,521	—78,838	—13,622	1,481	—855	7,133	—40,867
Royal Cdn. Navy.....	—	—	—	—	—	485	⁶	⁶	—
Totals.....	3,689,257	635,553	508,429	538,076	1,835,328	1,581,306⁵	1,586,247	10,374,196	6,684,939

¹The population of the Prairie Provinces in 1906, 1916 and 1926 is shown on pp. 127-128 of the 1930 Year Book. For intercensal estimated populations, see Table 13, p. 110. ²As corrected as a result of the Extension of Boundaries Act, 1912. ³As corrected by transfer of population of Fort Smith (368) to Northwest Territories. ⁴The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan and the Yukon Territory, and to extend the boundaries of Quebec, Ontario and Manitoba. ⁵Revised in accordance with the Labrador award of the Privy Council, Mar. 1, 1927. ⁶Members of the Royal Canadian Navy were counted in their homes in the census of 1931.

4.—Population of Canada by Provinces and Territories in 1871, and Increase Per Cent by Decades from 1871 to 1931.

Province or Territory.	Population in 1871.	Per cent Increase by Decades from 1871 to 1931.						Per cent Increase in 60 Years.
		1871 to 1881.	1881 to 1891.	1891 to 1901.	1901 to 1911.	1911 to 1921.	1921 to 1931.	
		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Prince Edward Island.....	94,021	15.82	0.17	-5.33	-9.23	-5.46	-0.65	-6.36
Nova Scotia.....	387,800	13.61	2.23	2.04	7.13	6.40	-2.09	32.44
New Brunswick.....	285,594	12.48	0.01	3.07	6.27	10.23	5.24	42.04
Quebec.....	1,191,516	14.06	9.53	10.77	21.64	17.69 ²	21.72	141.23
Ontario.....	1,620,851	18.88	9.73	3.25	15.77	16.08	16.98	111.72
Manitoba.....	25,228	146.79	144.95	67.34	80.79	32.23	14.75	2,675.24
Saskatchewan.....	-	-	-	-	439.48	53.83	21.68	-
Alberta.....	-	-	-	-	412.58	57.22	24.34	-
British Columbia.....	36,247	36.45	98.49	81.98	119.68	33.66	32.34	1,815.24
Yukon Territory.....	-	-	-	-	-68.73	-51.16	1.76	-
Northwest Territories ¹	48,000	17.60	75.33	-79.66	-67.67	22.76	-10.70	-85.14
Totals.....	3,689,257	17.23	11.76	11.13	34.17	21.94²	18.04	181.20

¹The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of immense areas to form the provinces of Alberta and Saskatchewan and the Yukon Territory, as well as to extend the boundaries of the older provinces of Quebec, Ontario and Manitoba.

²Revised in accordance with the Labrador award of the Privy Council, Mar. 1, 1927.

Early Censuses.—The credit of taking the first census of modern times belongs to Canada. The year was 1666, the census that of the colony of New France. Still earlier records of settlement at Port Royal (1605) and Quebec (1608) are extant; but the census of 1666 was a systematic "nominal" enumeration of the people, taken on the *de jure* principle on a fixed date, showing age, sex, occupation and conjugal and family condition. A second census in 1667 included the areas under cultivation and the numbers of sheep and cattle. When it is recalled that in Europe the first census dates only from the eighteenth century (those of France and England from the first year of the nineteenth) and that in the United States the census begins only with 1790, the achievement of the primitive St. Lawrence colony in instituting what is to-day one of the principal instruments of government throughout the civilized world may call for more than passing appreciation.

The census of 1666 (the results occupy 154 pages in manuscript, and are still to be seen in the Archives in Paris, or in a transcript at Ottawa) showed some 3,215 souls. It was repeated at intervals more or less regularly for a hundred years. By 1685 the total had risen to 12,263, including 1,538 Indians settled in villages and living a civilized life under the supervision of the missionaries. By the end of the century it had passed 15,000, and this was doubled in the next twenty-five years. Not to present further details, some of which will be found in the Chronology on pp. 48-60, it may be said that at the time of the cession (1763) the population of New France was nearly 70,000 (69,810 in 1765), whilst another 10,000 French (thinned to these proportions by the expulsion of the Acadians) were scattered through what are now Nova Scotia, New Brunswick and Prince Edward Island. The British population of Nova Scotia was 8,104 in 1762, following upon the foundation of Halifax in 1749.

Our chief sources of statistics for half a century and more after the cession are the reports of colonial governors—more or less sporadic—though censuses of the different sections under British rule were taken at irregular intervals. British settlement on a substantial scale in the Gulf provinces and in Ontario dates only from the Loyalist movement which followed the American Revolution, at the end of which, *i.e.*, about the year of the Constitutional Act (1791), the population of

Lower Canada was approximately 163,000, whilst the newly constituted province of Upper Canada under Lieutenant-Governor Simcoe numbered perhaps 15,000, and the addition of the maritime colonies brought the total to well over 200,000. A decade later Canada began the nineteenth century with a population of probably not less than 250,000 or 260,000. Subsequent censuses gave the populations of the different colonies as follows: Upper Canada (1824) 150,066, (1840) 432,159; Lower Canada (1822) 427,465, (1844) 697,084; New Brunswick (1824) 74,176, (1840) 156,162; Nova Scotia (1817) 81,351, (1838) 202,575; Prince Edward Island (1822) 24,600, (1841) 47,042.¹

The policy of desultory census-taking was ended in 1847 by an Act of the Canadian Legislature creating a "Board of Registration and Statistics" with instructions "to collect statistics and adopt measures for disseminating or publishing the same" and providing also for a decennial census. The first census thereunder was taken in 1851 and, as similar censuses were taken by New Brunswick and Nova Scotia in the same year, we have a regular measure of population growth in Canada over the past 80 years. The fifties saw a very rapid development, especially in Ontario, whilst the sixties showed only less substantial gains. In the years following Confederation there was a spurt, the increase between 1871 and 1881 (which included several lean years towards the end) being 635,553, or 17·23 p.c. In neither of the last two decades of the nineteenth century, however, was this record equalled either absolutely or relatively, the gains in each being under 550,000, or 12 p.c. With the end of the century the population of Canada had reached approximately five and a third millions, or twenty times that of 1800. It has increased by five millions in the past thirty years.

Expansion in the Twentieth Century.—It is within the confines of the present century that the most spectacular expansion of the Canadian population has taken place. The outstanding feature was, of course, the opening to settlement of the "last best West". The unorganized territories of British North America had been ceded to the Dominion soon after Confederation, and the West had been tapped and traversed by the Canadian Pacific Railway in the eighties and nineties. But though western population was doubled in each of these decades, it was only with the launching of a large-scale immigration movement after 1900 that western settlement and production became a first-rate economic factor. Simultaneously an almost equally striking development occurred in the industrial centres of Eastern Canada, which formed the immediate basis for the move upon the West. At the back, of course, was the heavy inflow of British and other capital—a total of one and a half billions of dollars between 1900 and 1912—which went to finance the large constructive undertakings (chiefly railway, municipal and industrial) which characterized the movement, and which represented at bottom the traditional policy of England in search of cheap and abundant food for her workshop population. The years 1901 to 1911, in brief, form the *decas mirabilis* of Canadian expansion. The immigration movement just mentioned, which had previously run well under 50,000 per annum, rose rapidly to over five times that volume, eventually passing 400,000 in a single year. In the ten years between 1901 and 1911 it exceeded 1,800,000, and though at least a third of these were lost (partly in the return to Europe of labour temporarily attracted by the railway and other developments in progress, and partly in the never-ceasing and natural "drag" of the United States upon a fertile and less wealthy people), it formed the chief factor in the gain of 34 p.c. which

¹ A résumé of the results of all the censuses taken in Canada between 1666 and 1861 was published as vol. IV of the census of 1871.

the total population of Canada registered in that decade, and which was larger than the relative growth of any other country during the same period. The movement was continued and even intensified in the first three years of the second decade of the century, after which a recession set in to which the outbreak of war gave a new and wholly unexpected turn. Nevertheless the decade which closed with the census of 1921 showed over 1,800,000 immigrant arrivals in Canada, and, though the proportionate loss of these was very heavy (probably as much as two-thirds), Canada's relative gain for the decade was again among the largest in the world.

Organization for the Census of 1931.—As of June 1, 1931, a new census of the Dominion was taken. The complex nature of the task and the great and growing importance of census results in the general machinery of government combined to make the operation one of paramount importance.

The complete co-operation of the people is essential to a good census and to this end a broad educational campaign was undertaken in which the radio, for the first time, played a part as a means of conveying an idea of the scope, methods and purpose of the census and its place in statistical and general administration. In a country like Canada where approximately one-third of the gainfully occupied population is employed in agriculture, the most expensive part of the census organization is that covering the thinly settled rural districts and it is advisable that, when once the large organization which is necessary has been created, it be made the most of. The people's institutions and offices as well as the people themselves were subjects of measurement.

The nucleus of the organization existed in the small permanent staff constituting the Census Branch of the Bureau of Statistics. This branch maintains connection between census and census, so that experience is continuous and cumulative. It makes the detailed plans for taking the census and arranges for the necessary expansion of the personnel as required. In planning the field work the country was first divided into "Census Districts" each in charge of a "Census Commissioner". Districts were further divided into sub-districts varying in population from 600 to 800 persons in rural localities, and from 1,200 to 1,800 in urban centres. A sub-district was the territory allotted to a "Census Enumerator" who conducted the house-to-house or farm-to-farm canvass.

The 1931 census employed 254 commissioners and upwards of 14,000 enumerators. The commissioners were appointed by the Minister and instructed by an officer of the Bureau; on the other hand the enumerators were appointed and instructed by the commissioners. All field officers were paid for the most part on a "piece" basis and were required to pass a practical test in the work before appointment.

For the actual compilation work an extra temporary staff of between 700 and 800 clerks was engaged at Ottawa. All compilation was done by machinery. Thousands of numerous facts obtained for each individual were punched, by location, on a special designed card. The sorting, counting and recording was then done mechanically.

While, as regards the field covered, the 1931 census followed the main lines of its predecessors, it had several important new features. Additional information was obtained with regard to institutions such as hospitals, asylums, reformatories, child-welfare, etc., which will aid in the solution of social problems that are becoming more pressing each year (See Chapter XXVI). The unemployment situation also received special attention, and new data regarding wholesale and retail trading activities were gathered for the first time in Canada with the purpose of giving a bird's-eye view of the great problem of distribution. The agricultural section

the census was also improved, commensurate with the part played by this all-important basic industry. At the present time other countries both in Europe and America are putting forth strenuous efforts to ensure more comprehensive and accurate censuses and a tendency to increase the frequency of census taking, due to the increasing complexity of modern life, the greater demands on Governments, and the great need for comprehensive economic information upon which to base business and commercial policies, is noticeable.

Results of the Census of 1931.—According to the final results of the 1931 census, the total population of the Dominion on June 1, 1931, was 10,374,196, as compared with 8,787,949 on June 1, 1921, an increase of 1,586,247 or 18.05 p.c. in the decade, as compared with 21.94 p.c. and 34.17 p.c. during the decades 1911 to 1921 and 1901 to 1911 respectively.

During the decade 1911-21 the countries which comprise the British Empire, and more especially the United States, which was only in the war for nineteen months as against Canada's fifty-two, suffered less in actual loss of life from the war and its consequences than the continental countries of Europe: None of these declined in population during the period, as many continental European countries did. Their percentage increases, however, were in almost all cases lower than in the previous decade. Thus the population of England and Wales increased between 1911 and 1921 only from 36,070,492 to 37,885,242, or 5.0 p.c., as compared with an increase of 10.9 p.c. in the previous decade; Scotland, again, increased only from 4,760,904 to 4,882,497, or 2.6 p.c., as compared with 6.5 p.c. between 1901 and 1911. Nor has this retardation of increase been much improved in the decade 1921-31, for the increase in England and Wales during these years was but 5.4 p.c. and Scotland actually showed a decrease of 0.8 p.c. Of the overseas Dominions, New Zealand, according to the latest official estimate (the census of 1931 was postponed), increased her population from 1,218,913 to 1,510,940 or by nearly 24 p.c. for the decade ended 1931, as compared with 20.9 p.c. and 30.5 p.c. respectively for the decades ended 1921 and 1911. In the case of the white population of South Africa, much the same condition obtains. The Commonwealth of Australia, the only Dominion to grow more rapidly in the second decade of the twentieth century than in the first, increased from 4,455,005 in 1911 to 5,435,734 in 1921 or by 22.01 p.c. as compared with 18.05 p.c. for the previous decade and 19.4 p.c. for the most recent decade 1921-31 (based on the latest official population estimate of 6,488,707 for 1931¹). The population of the continental United States increased between 1920 and 1930 from 105,710,620 to 122,775,046, an increase of 16.1 p.c., as compared with 14.9 p.c. in the decade 1910-20 and 21 p.c. in the decade 1900-10.

Considering now the movement of population within the Dominion of Canada itself, it is evident from Table 1 that in this country, as formerly in the United States, there is a distinct movement of population from East to West. In the decade from 1911 to 1921 this was clearly apparent, for the four western provinces then increased their population by no less than 44 p.c. and for the decade 1921-31 the increase was from 2,480,664 to 3,047,792, or 22.86 p.c. From 1921 to 1931 the five eastern provinces increased from 6,294,655 to 7,315,041, an increase of 1,020,386 persons, which, though absolutely larger than the figure for the West, constitutes an increase of only 16.2 p.c. over the 1921 population. The same conclusion may be deduced from Table 2, which shows that while in 1871 only 2.96 p.c. and in 1881 only 3.88 p.c. of the population of the country dwelt west of the lake of the Woods, the percentage in 1891 was 7.24; in 1901, 12.02; in 1911, 24.09; in 1921, 28.37; and in 1931, 29.49.

¹ As in the case of New Zealand the census of 1931 was postponed.

On the other hand, the three eastern maritime provinces, which in 1871 contained 20.80 p.c. of the population of the Dominion, had in 1881 20.14 p.c., in 1891 18.22 p.c., in 1901 16.64 p.c., in 1911 13.01 p.c., in 1921 11.38 p.c., and in 1931 only 9.72 p.c. of the population. Ontario and Quebec—the old pre-Confederation Province of Canada—still remain the chief centre of population, their population being, in 1931, 60.79 p.c. of the total as compared with 76.24 p.c. in 1871, 75.98 p.c. in 1881, 74.54 p.c. in 1891, 71.34 p.c. in 1901, 62.90 p.c. in 1911 and 60.25 p.c. in 1921. In other words, the net result of the sixty years has been that in 1931 three-fifths of the population of the Dominion lived in these provinces as compared with more than three-fourths in 1871.

In 1881 the "centre" of population east and west was in the county of Prescott, Ontario, not far from Caledonia village. In 1891 it had moved west to the vicinity of Ottawa, where it remained in 1901. In 1911 the county of Victoria, Ontario contained the centre, and it was probably in the Parry Sound district of Ontario in 1921 and at the present time is somewhat west of this locality.

Density of Population.—The density of population in 1931 (*i.e.*, the number of persons per square mile of the land area as in that year), as compared with 1921 and 1911, is shown by provinces and for the country as a whole in Table 5. Generally speaking the density of population decreases as one travels westward, but the enormous area of the province of Quebec reduced the density of its population to the low figure of 5.04 in 1931. As among the nine provinces, the density of population is greatest in Prince Edward Island and least in British Columbia.

5.—Density of Population in Canada, by Provinces and Territories, 1911, 1921 and 1931

NOTE.—Densities as worked out for 1911 and 1921 are for revised areas as in 1931.

Province or Territory.	1911.	1921.	1931.	Province or Territory.	1911.	1921.	1931.
Prince Edward Island.....	42.91	40.56	40.27	Saskatchewan.....	2.07	3.17	3.17
Nova Scotia.....	23.72	25.23	24.71	Alberta.....	1.50	2.36	2.36
New Brunswick.....	12.71	14.00	14.73	British Columbia...	1.12	1.50	1.50
Quebec.....	3.51	4.14	5.04	Canada, Exclusive of the Territories	3.51	4.29	5.04
Ontario.....	6.96	8.08	9.45	Yukon Territory...	0.04	0.02	0.02
Manitoba.....	2.05	2.71	3.11	Northwest Territories.....	0.005	0.006	0.006
				Canada.....	2.05	2.50	2.50

Elements of Growth.—The former lack of comprehensive and comparative vital statistics for the whole of Canada, together with the lack of statistics of emigration, makes it difficult to determine how far the growth of population since the commencement of the twentieth century is due to natural increase and how far to immigration. The following estimate (Table 6) may, however, be of interest. During the decade 1911-1921, in addition to 60,000 Canadians who died overseas and nearly 20,000 who took their discharge in the United Kingdom, there were a great number of residents of Canada—most of them recent immigrants—who left Canada to join the forces of the Mother Country and her allies in the Great War and did not return. The estimated figure given for emigration in the decade 1911-1921 may therefore be regarded as of a distinctly abnormal character.

6.—Movement of Population, including Estimated Natural Increase, Recorded Immigration and Estimated Emigration, for the Intercensal Periods 1901-11, 1911-21 and 1921-31.

Decade and Item.	No.
Decade 1901-1911—	
Population, Census of April 1, 1901.....	5,371,315
Natural increase (1901-1911), estimated.....	853,566
Immigration (April 1, 1901, to May 31, 1911).....	1,847,651
Total.....	8,072,532
Population, Census of June 1, 1911.....	7,206,643
Emigration (April 1, 1901, to May 31, 1911), estimated.....	865,889
Decade 1911-1921—	
Population, Census of June 1, 1911.....	7,206,643
Natural increase (1911-1921), estimated.....	1,150,125
Immigration (June 1, 1911, to May 31, 1921).....	1,728,921
Total.....	10,085,689
Population, Census of June 1, 1921.....	8,787,949 ²
Emigration (June 1, 1911, to May 31, 1921), estimated.....	1,297,740 ¹
Decade 1921-1931—	
Population, Census of June 1, 1921.....	8,787,949 ²
Natural Increase (1921-1931), partly estimated for the years 1921-25 in the case of Quebec.....	1,325,256
Immigration (June 1, 1921, to May 31, 1931), including 238,874 returned Canadians.....	1,509,136
Total.....	11,622,341
Population, Census of June 1, 1931.....	10,374,196
Emigration (June 1, 1921 to May 31, 1931), estimated.....	1,248,145
Net gain in population, 1901-1911.....	1,835,328
Net gain in population, 1911-1921.....	1,581,840
Net gain in population, 1921-1931.....	1,586,247

¹This figure includes also the 60,000 Canadian lives lost at the front and the soldiers (about 20,000) enlisting in the Canadian forces and receiving their discharge in the United Kingdom. ²Revised in accordance with the Labrador award of the Privy Council, Mar. 1, 1927.

Subsection 1.—Population of Canada by Provinces and Electoral Districts.

The populations of the several provinces and electoral districts of Canada in 1931 as compared with 1921 are given in Table 7.

7.—Population of Canada by Provinces and Electoral Districts, 1931, Compared with 1921.

Province and Electoral District.	Population.		Province and Electoral District.	Population.	
	1931.	1921.		1931.	1921.
Prince Edward Island...	88,038	88,615	New Brunswick.....	408,219	387,876
Kings.....	19,147	20,445	Charlotte.....	21,337	21,435
Prince.....	31,500	31,520	Gloucester.....	41,914	88,684
Queens.....	37,391	36,650	Kent.....	23,478	23,916
Nova Scotia.....	512,846	523,837	Northumberland.....	34,124	33,985
Antigonish-Guysborough	25,516	27,098	Res ignouche-Madawaska	54,386	42,977
Cape Breton North-			Royal.....	31,026	32,078
Victoria.....	29,116	31,325	St. John-Albert.....	69,292	69,093
Cape Breton South.....	66,999	58,716	Victoria-Carleton.....	35,703	33,900
Colchester.....	25,051	25,196	Westmorland.....	57,506	53,387
Cumberland.....	36,366	41,191	York-Sunbury.....	39,453	38,421
Digby-Annapolis.....	34,650	37,765	Quebec.....	2,874,255	2,360,665
Halifax City and County	100,204	97,228	Argenteuil.....	18,976	17,165
Hants-Kings.....	43,750	43,462	Bagot.....	16,914	18,035
Inverness.....	21,055	23,808	Beauce.....	57,544	52,701
Pictou.....	39,018	40,851	Beauharnois.....	25,163	19,888
Queens-Lunenburg.....	42,286	43,686	Bellechasse.....	21,296	21,190
Richmond-West Cape			Berthier-Maskinongé....	35,545	36,762
Breton.....	15,411	17,646	Bonaventure.....	32,432	29,092
Shelburne-Yarmouth....	33,424	35,865	Brome-Missisquoi.....	32,069	31,090

7.—Population of Canada by Provinces and Electoral District, 1931, Compared with 1921—continued.

Province and Electoral District.	Population.		Province and Electoral District.	Population.	
	1931.	1921.		1931.	1921.
Quebec—concluded.			Ontario—concluded.		
Chambly-Verchères.....	39,404	34,643	Essex East.....	42,976	25,281
Champlain.....	50,176	47,852	Essex South.....	35,044	29,375
Charlevoix-Saguenay.....	54,999	45,692	Essex West.....	83,808	49,413
Chateauguay-Huntingdon.....	25,470	26,731	Fort William.....	36,040	27,904
Chicoutimi.....	55,724	37,578	Frontenac-Addington.....	29,434	30,616
Compton.....	31,858	32,816	Glengarry.....	18,666	20,513
Dorchester.....	31,693	29,563	Grenville-Dundas.....	32,425	33,952
Drummond-Arthabasca.....	53,338	44,823	Grey North.....	30,288	30,617
Gaspé.....	45,617	40,375	Grey Southeast.....	27,411	28,341
Hull.....	49,196	39,180	Haldimand.....	21,428	21,287
Joliette.....	27,585	25,913	Halton.....	26,558	24,899
Kamouraska.....	24,085	22,014	Hamilton East.....	66,771	54,279
Labelle.....	36,953	35,927	Hamilton West.....	56,305	53,244
Lake St. John.....	50,253	35,539	Hastings-Peterborough.....	27,160	27,410
Laprairie-Napierville.....	21,091	20,065	Hastings South.....	39,327	37,838
L'Assomption-Montcalm.....	29,188	28,318	Huron North.....	22,662	23,540
Laval-Two Mountains.....	30,434	28,314	Huron South.....	22,518	23,546
Lévis.....	35,656	33,323	Kenora-Rainy River.....	33,925	26,315
L'Islet.....	19,404	17,859	Kent.....	54,715	50,638
Lotbinière.....	23,034	21,837	Kingston City.....	26,180	24,104
Matane.....	45,272	36,303	Lambton East.....	26,736	28,271
Mégantic.....	35,492	33,633	Lambton West.....	34,040	30,418
Montmagny.....	20,239	21,997	Lanark.....	32,856	32,993
Nicolet.....	28,673	29,695	Leeds.....	35,157	34,909
Pontiac.....	64,155	45,682	Lincoln.....	54,199	48,625
Portneuf.....	39,522	34,452	London.....	59,821	53,858
Quebec-Montmorency.....	39,552	31,000	Middlesex East.....	34,788	27,994
Quebec-East.....	55,596	40,722	Middlesex West.....	23,632	25,033
Quebec-South.....	36,235	25,875	Muskoka-Ontario.....	35,513	35,021
Quebec-West.....	52,309	37,562	Nipissing.....	70,204	49,969
Richelieu.....	21,483	19,548	Norfolk-Elgin.....	40,727	35,937
Richmond-Wolfe.....	41,867	42,248	Northumberland.....	30,727	30,512
Rimouski.....	33,151	27,520	Ontario.....	45,139	31,074
St. Hyacinthe-Rouville.....	39,630	36,754	Ottawa.....	106,077	93,740
St. Johns-Iberville.....	27,051	23,518	Oxford North.....	25,244	24,527
Shefford.....	28,262	25,734	Oxford South.....	22,581	22,235
Sherbrooke.....	37,386	30,786	Parkdale.....	59,246	59,545
Stanstead.....	25,118	23,380	Parry Sound.....	25,900	26,860
Témiscouata.....	50,163	44,310	Patricia ¹	3,973	2,477
Terrebonne.....	38,611	33,908	Peel.....	28,156	23,896
Three Rivers-St. Maurice.....	69,095	50,845	Perth North.....	33,822	32,461
Vaudreuil-Soulanges.....	21,114	21,620	Perth South.....	17,570	18,382
Wright.....	27,107	25,867	Peterborough West.....	37,042	35,243
Yamaska.....	16,820	18,056	Port Arthur-Thunder Bay.....	35,865	26,871
Quebec Unorganized ¹	1,003,868	724,205	Prescott.....	24,596	26,475
Montreal Island.....	48,064	48,869	Prince Edward-Lennox.....	25,718	25,494
Cartier.....	87,096	67,836	Renfrew North.....	27,230	27,079
Hochelaga.....	130,776	70,856	Renfrew South.....	26,986	27,061
Jacques-Cartier.....	88,579	67,682	Russell.....	43,831	43,413
Laurier-Outremont.....	116,311	65,640	Simcoe East.....	36,572	37,122
Maisonneuve.....	93,035	39,437	Simcoe North.....	29,224	29,035
Mount Royal.....	60,696	54,834	Stormont.....	32,524	25,134
Ste. Anne.....	36,033	33,338	Timiskaming North.....	58,284	26,379
St. Antoine.....	140,940	75,475	Timiskaming South.....	43,948	31,743
St. Denis.....	44,019	44,372	Toronto East.....	68,987	63,753
St. Henri.....	54,903	54,741	Toronto East Centre.....	66,341	69,717
St. James.....	37,861	37,688	Toronto High Park.....	64,088	50,859
St. Lawrence-St. George.....	65,555	63,381	Toronto North East.....	106,123	58,319
St. Mary.....	1,387	1,161	Toronto North West.....	70,729	61,484
Ontario.....	3,431,683	2,933,662	Toronto-Scarborough.....	87,556	49,749
Algoma East.....	37,455	37,012	Toronto South.....	46,065	49,294
Algoma West.....	38,425	35,586	Toronto West Centre.....	61,972	59,157
Brant.....	21,202	21,970	Victoria.....	31,841	33,995
Brantford City.....	32,274	31,407	Waterloo North.....	53,777	41,698
Bruce North.....	20,466	20,872	Waterloo South.....	36,075	33,568
Bruce South.....	21,820	23,413	Welland.....	82,731	66,668
Carleton.....	38,619	32,673	Wellington North.....	19,035	19,833
Dufferin-Simcoe.....	32,763	33,289	Wellington South.....	39,129	34,327
Durham.....	25,782	24,629	Wentworth.....	66,943	46,086
Elgin West.....	34,068	35,413	York North.....	38,607	36,222
			York South.....	62,258	27,895
			York West.....	124,883	61,655

¹ Unorganized, not included in any electoral district.

7.—Population of Canada by Provinces and Electoral Districts, 1931, Compared with 1921—concluded.

Province and Electoral District.	Population.		Province and Electoral District.	Population.	
	1931.	1921.		1931.	1921.
Manitoba	700,139	610,118	Alberta	731,605	588,454
Brandon.....	40,483	38,500	Acadia.....	34,896	39,974
Dauphin.....	37,703	38,607	Athabaska.....	55,298	37,214
Lisgar.....	31,891	30,604	Battle River.....	43,441	36,737
Macdonald.....	32,090	31,877	Bow River.....	35,901	34,323
Marquette.....	37,468	34,482	Calgary East.....	51,640	38,076
Neepawa.....	27,429	29,941	Calgary West.....	50,898	40,122
Nelson.....	32,238	20,868	Camrose.....	39,806	38,274
Portage la Prairie.....	33,979	35,461	Edmonton East.....	48,865	36,263
Provencher.....	32,613	29,439	Edmonton West.....	51,584	38,748
Selkirk.....	44,506	41,265	Lethbridge.....	47,871	38,079
Souris.....	26,726	24,439	Macleod.....	40,336	33,826
Springfield.....	42,350	30,836	Medicine Hat.....	32,709	36,395
St. Boniface.....	43,389	35,429	Peace River.....	76,778	39,727
Winnipeg North.....	62,917	52,473	Red Deer.....	39,385	35,318
Winnipeg North Centre.....	45,350	39,142	Vegreville.....	37,442	30,593
Winnipeg South.....	51,518	32,943	Wetaskiwin.....	44,755	34,785
Winnipeg South Centre.....	77,489	63,812			
Saskatchewan	921,785	757,510	British Columbia	694,263	524,582
Assiniboia.....	41,144	34,789	Cariboo.....	52,702	39,834
Humboldt.....	44,146	37,128	Comox-Alberni.....	25,369	21,378
Kindersley.....	35,290	28,997	Fraser Valley.....	38,597	28,811
Last Mountain.....	36,507	34,054	Kootenay East.....	22,566	19,137
Long Lake.....	31,266	32,308	Kootenay West.....	39,943	30,502
Mackenzie.....	44,869	34,669	Nanaimo.....	55,524	48,010
Maple Creek.....	43,903	38,586	New Westminster.....	69,294	45,982
Melfort.....	52,668	30,716	Skeena.....	30,358	28,934
Melville.....	39,338	36,842	Vancouver-Burrard.....	82,519	56,338
Moose Jaw.....	42,334	42,243	Vancouver Centre.....	75,234	60,879
North Battleford.....	53,708	34,451	Vancouver North.....	32,972	24,215
Prince Albert.....	50,896	39,126	Vancouver South.....	89,556	46,137
Qu'Appelle.....	35,928	33,003	Victoria.....	39,082	38,727
Regina.....	60,858	40,625	Yale.....	40,637	35,698
Rosetown.....	32,526	29,341			
Saskatoon.....	60,636	40,712	Yukon	4,230	4,157
South Battleford.....	45,199	35,070			
Swift Current.....	41,717	40,305	Northwest Territories ...	7,133	7,988
Weyburn.....	41,684	37,431			
Willow Bunch.....	48,466	39,257			
Yorkton.....	38,692	37,857			

Section 2.—Rural and Urban Population.

In Table 8 are given statistics showing the growth of rural and urban population respectively since 1891. For the purposes of the censuses previous to 1931, the population residing in cities, towns and incorporated villages has been defined as urban, and that outside of such localities as rural. Thus the distinction here made between "rural" and "urban" population was a distinction of provincial legal status rather than of size of aggregations of population within limited areas. Since the laws of the various provinces differ in regard to the population necessary before a municipality may be incorporated as urban (the laws of Saskatchewan, for example, making provision that 50 people actually resident on an area not greater than 640 acres may claim incorporation as a village, while the Ontario law now requires that villages asking for incorporation shall have a population of 750 on an area not exceeding 500 acres), the line of demarcation between rural and urban population on this basis is not uniformly drawn throughout the Dominion, as far as comparable

aggregations of population are concerned. To a limited extent, however, Table 10 will permit the student of population statistics to make, at least for Canada as a whole, his own line of demarcation between rural and urban populations.¹

While a summary comparison between urbanization in Canada in 1931 and in the United States in 1930 would lead us to the conclusion that our country, though far less densely peopled than the United States, had an almost equally large percentage of its population in urban communities, *viz.*, 53.71 p.c. in Canada as compared with 56.2 p.c. in the United States, the fact that in the United States inhabitants of places having under 2,500 population are included with rural population, must be taken into account. A fairer basis of comparison is secured if the same population limits are taken for both countries, as may be done by using Table 10. Thus, at the census of 1930, the United States had 29.5 p.c. of its population resident in cities of 100,000 and over, while Canada in 1931 had only 22.45 p.c. of its population in such places. The United States had an additional 18 p.c. of its population residing in cities of between 10,000 and 100,000 population, and 4.8 p.c. in cities and towns of 5,000 to 10,000, while Canada had in cities of these categories only 14.87 p.c., and 4.42 p.c. respectively of its population. Thus, taking all places of 5,000 and over—the lowest population for which comparative figures are readily available—52.3 p.c. of the population of the United States resided in such places as compared with 41.74 p.c. of the population of Canada, showing the much higher degree of urbanization which has been reached in the United States—a natural thing in an older settled and more densely peopled country.

On the basis of the census classification, it is apparent from Table 8 that in the last decade, as in the previous one, urban communities absorbed somewhat over three-quarters of the total increase in population, with the result that the urban population of Canada in 1931 exceeded the rural by 769,920. Out of every 1,000 persons in the country, 463 were resident, on June 1, 1931, in rural and 537 in urban communities, as compared with 505 in rural and 495 in urban communities on June 1, 1921; 545 in rural and 455 in urban communities in 1911; 625 in rural and 375 in urban communities in 1901; and 682 in rural and 318 in urban communities in 1891.

From Table 11, showing the distribution of urban population in Canada by size of cities and towns, it is seen that Canada possesses two cities of more than half a million population. These are Montreal and Toronto, with 818,577 and 631,290 inhabitants respectively, the former having in its neighbourhood several "satellite" cities, Verdun, Westmount, Lachine, Outremont, which, with other towns in its vicinity, bring the population of "Greater Montreal" almost to the 1,000,000 mark. Two other cities, Vancouver and Winnipeg, have attained the 200,000 mark and Hamilton, Quebec and Ottawa each have populations of over 100,000. The two western cities of Calgary and Edmonton are now in the 75,000-100,000 class. In this respect London which excelled Edmonton in 1921 now takes the next lower place with a population of 71,148. Details of the population of these and other smaller cities and towns of 5,000 and over, are given by censuses from 1871 to 1931 in Table 11, while the populations of urban communities having a population of from 1,000 to 5,000 each in 1931 are given for 1901, 1911, 1921 and 1931 in Table 12.

¹In the United States, urban population prior to 1930 was classified by the Census Bureau as that residing in cities and other incorporated places having 2,500 inhabitants or more with certain minor qualifications, but in 1930 the definition was slightly modified to include townships and other political divisions not incorporated as municipalities, having a total population of 10,000 or more, and a population density of 1,000 or more per square mile. The direct result of this modification has been to slightly increase the proportion of urban population.

8.—Rural and Urban Population by Provinces and Territories, 1891, 1901, 1911, 1921 and 1931.

Province.	1891.		1901.		1911.	
	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.
Prince Edward Island.....	94,823	14,255	88,304	14,955	78,758	14,970
Nova Scotia.....	373,403	76,993	330,191	129,383	306,210	186,128
New Brunswick.....	272,362	48,901	253,835	77,285	252,342	99,547
Quebec.....	988,820	499,715	994,833 ⁶	654,065 ⁶	1,038,934 ⁶	966,842 ⁶
Ontario.....	1,295,323	818,998	1,246,969	935,978	1,198,803 ⁵	1,328,489
Manitoba.....	111,498	41,008	184,775 ³	70,436 ³	261,029 ⁴	200,365
Saskatchewan.....	1	—	77,013 ⁷	14,266 ⁷	361,037 ⁷	131,395 ⁷
Alberta.....	1	—	54,489 ²	18,533 ²	236,633 ²	137,662 ²
British Columbia.....	60,945	37,228	88,478	90,179	188,796	203,684
Yukon Territory.....	1	—	18,077	9,142	4,647	3,865
Northwest Territories.....	1	—	20,129	—	6,507 ⁸	—
Royal Canadian Navy.....	—	—	—	—	—	—
Canada.....	3,296,141	1,537,098	3,357,093	2,014,222	3,933,696	3,272,947

Province.	1921.		1931.		Numerical Increase in Decade 1921-31.	
	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.
Prince Edward Island.....	69,522	19,093	67,653	20,385	-1,869	1,292
Nova Scotia.....	296,799	227,038	281,192	231,654	-15,607	4,616
New Brunswick.....	263,432	124,444	279,279	128,940	15,847	4,496
Quebec.....	1,038,096	1,322,569	1,060,649	1,813,606	22,553	491,037
Ontario.....	1,227,030	1,706,632	1,335,691	2,095,992	108,661	389,360
Manitoba.....	348,502	261,616	384,170	315,969	35,668	54,353
Saskatchewan.....	538,552	218,958	630,880	290,905	92,328	71,947
Alberta.....	365,550	222,904	453,097	278,598	87,547	55,694
British Columbia.....	277,020	247,562	299,524	394,739	22,504	147,177
Yukon Territory.....	2,851	1,306	2,870	1,360	19	54
Northwest Territories.....	7,988	—	7,133	—	-855	—
Royal Canadian Navy.....	485	—	9	—	9	—
Canada.....	4,435,827	4,352,122	4,802,138	5,572,058	366,311	1,219,936

¹The population (98,967) in territory now comprised in the provinces of Alberta, Saskatchewan and in the Yukon and Northwest Territories was classified as rural in the census of 1891. ²Volume 1, Census 1911, places the urban population of Alberta for that year at 141,937. Included in this figure was the population (5,250) of twelve places which, according to the Report of the Municipal Commissioner for Alberta, were not then incorporated. The places so included were Aetna, Bankhead, Bellevue, Bickerdike, Canmore, Cardiff, Exshaw, Hillcrest, Passburg, Queenston and Elmpark. The correction resulting from this and from other small adjustments consequent upon more definite knowledge as to incorporated areas, places the urban population for 1911 at 137,662. Similar corrections have been made in the urban and rural figures for the census of 1901. ³As corrected in Census Report, Prairie Provinces, 1916. ⁴As changed by Extension of Boundaries Act, 1912. ⁵As changed by extension of Boundaries Act, 1912. ⁶The urban population of 970,791 shown in Volume 1, Census 1911, is reduced to 966,842 by the transfer of the population of Maniwaki, Martinville, Moisie, St. Bruno, St. Martin and St. Vincent de Paul from urban to rural; by adjustments in area of the villages of Ste. Anne and Ste. Geneviève; and Extension of Boundaries Act, 1912. ⁷Urban and rural population for 1911 and 1901 are as corrected in Census Report, Prairie Provinces, 1916. ⁸As reduced by Extension of Boundaries Act, 1912. ⁹Members of the Royal Canadian Navy were counted in their homes in the census of 1931.

9.—Percentage Distribution of Rural and Urban Populations, by Provinces and Territories, 1891, 1901, 1911, 1921 and 1931.

NOTE.—In using this table, reference should be made to the notes appended to the preceding table showing rural and urban population by numbers.

Province.	1891.		1901.		1911.	
	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.
Prince Edward Island.....	86.93	13.07	85.52	14.48	84.03	15.97
Nova Scotia.....	82.91	17.09	71.85	28.15	62.20	37.80
New Brunswick.....	84.78	15.22	76.66	23.34	71.71	28.29
Quebec.....	66.43	33.57	60.33	39.67	51.80	48.20
Ontario.....	61.26	38.74	57.12	42.88	47.43	52.57
Manitoba.....	73.11	26.89	72.40	27.60	56.57	43.43
Saskatchewan.....	1	—	84.37	15.63	73.32	26.68
Alberta.....	1	—	74.62	25.38	63.22	36.78
British Columbia.....	62.08	37.92	49.52	50.48	48.10	51.90
Yukon Territory.....	1	—	66.41	33.59	54.59	45.41
Northwest Territories.....	1	—	100.00	—	100.00	—
Royal Canadian Navy.....	—	—	—	—	—	—
Canada.....	68.20	31.80	62.50	37.50	54.58	45.42

Province.	1921.		1931.	
	Rural.	Urban.	Rural.	Urban.
Prince Edward Island.....	78.45	21.55	76.85	23.15
Nova Scotia.....	56.66	43.34	54.83	45.17
New Brunswick.....	67.92	32.08	68.41	31.59
Quebec.....	43.97	56.03	36.90	63.10
Ontario.....	41.83	58.17	38.92	61.08
Manitoba.....	57.12	42.88	54.87	45.13
Saskatchewan.....	71.10	28.90	68.44	31.56
Alberta.....	62.12	37.88	61.93	38.07
British Columbia.....	52.81	47.19 ²	43.14	56.86
Yukon Territory.....	68.58	31.42	67.85	32.15
N.W. Territories.....	100.00	—	100.00	—
Royal Canadian Navy.....	100.00	—	—	—
Canada.....	50.48	49.52	46.29	53.71

¹The population in the territory now comprised in the Provinces of Alberta and Saskatchewan and the Yukon and Northwest Territories was classified as rural in the census of 1891.

²If Vancouver South with a population of 32,267 and Point Grey with 13,736, which are wholly urban were included in the urban class, the ratio of rural to urban would be 44.1 to 55.9.

10.—Urban Population of Canada, Divided by Size of Municipality Groups, 1901, 1921 and 1931.

In Cities and Towns of—	1911.			1921.			1931.		
	Number of Places.	Population.	Per cent of Total Pop.	Number of Places.	Population.	Per cent of Total Pop.	Number of Places.	Population.	Per cent of Total Pop.
Over 500,000.....	—	—	—	2	1,140,399	12.97	2	1,449,784	13.97
Between—									
400,000 and 500,000	1	470,480	6.53	—	—	—	—	—	—
300,000 and 400,000	1	376,538	5.22	—	—	—	—	—	—
200,000 and 300,000	—	—	—	—	—	—	2	465,378	4.40
100,000 and 200,000	2	236,436	3.28	4	518,298	5.90	3	413,013	3.93
50,000 and 100,000	3	247,741	3.44	5	336,650	3.83	7	470,443	4.47
25,000 and 50,000	6	241,007	3.34	7	239,096	2.72	10	339,521	3.23
15,000 and 25,000	13	237,551	3.30	19	370,990	4.22	23	457,292	4.38
10,000 and 15,000	18	221,322	3.07	18	224,033	2.55	23	275,944	2.62
5,000 and 10,000	46	323,056	4.48	54	382,762	4.36	68	458,784	4.38
3,000 and 5,000	60	226,212	3.14	73	276,026	3.14	71	273,276	2.60
1,000 and 3,000	251	429,553	5.97	292	489,461	5.57	324	557,466	5.28
500 and 1,000	247	180,784	2.51	—	—	—	322	231,375	2.21
Under 500.....	—	90,284	1.25	—	374,727	4.26	750	179,782	1.71
Totals.....	—	3,280,964	45.53	—	4,352,402	49.52	—	5,572,058	53.71

Population is shown in Table 10 to be increasingly attracted to the larger cities. Thus not only have cities of over 500,000 population (Montreal and Toronto) increased their proportions to the total, but cities of from 100,000 to 500,000 have increased their aggregate population from 5.90 p.c. of the total to 8.47 p.c., and cities of between 5,000 and 100,000 from 17.68 p.c. to 19.29 p.c. in the decade 1921-1931. The classes below 5,000 show slight proportional reductions.

11.—Populations of Cities and Towns having over 5,000 Inhabitants in 1931, Compared with 1871-81-91-1901-11-21.

NOTE.—The cities and towns in which a Board of Trade exists are indicated by an asterisk(*), and those in which there is a Chamber of Commerce by a dagger (†). For footnotes see end of table. In all cases the population is for the city or town as it existed in 1931.

City or Town.	Province.	Population.						
		1871.	1881.	1891.	1901.	1911.	1921.	1931.
*†Montreal.....	Quebec.....	115,000	155,238	219,616	328,172	490,504 ¹	618,506	818,577
*Toronto.....	Ontario.....	59,000	96,196	181,215	209,892	381,833 ²	521,893	631,207
*Vancouver.....	British Columbia.....	—	—	13,709	29,432	120,847	163,220	246,593
*Winnipeg.....	Manitoba.....	241	7,985	25,639	42,340	136,035	179,087	218,785
†Hamilton.....	Ontario.....	26,880	36,661	48,959	52,634	81,969	114,151	155,547
*Quebec.....	Quebec.....	59,699	62,446	63,099	68,840	78,710	95,193	130,594
*Ottawa.....	Ontario.....	24,141	31,307	44,154	59,928	87,062	107,843	126,872
*Calgary.....	Alberta.....	—	—	3,876	4,392	43,704	63,305	83,761
*†Edmonton.....	Alberta.....	—	—	—	4,176	31,064 ³	58,821	79,197
†London.....	Ontario.....	18,000	26,266	31,977	37,976	46,300	60,959	71,148
†Windsor.....	Ontario.....	4,253	6,561	10,322	12,153	17,829	38,591	63,108
†Verdun.....	Quebec.....	—	278	296	1,898	11,629	25,001	60,745
*Halifax.....	Nova Scotia.....	29,582	36,100	38,437	40,832	46,619	58,372	59,275
*Regina.....	Saskatchewan.....	—	—	—	2,249	30,213	34,432	53,209
*Saint John.....	New Brunswick.....	41,325	41,353	39,179	40,711	42,511	47,166	47,514
*Saskatoon.....	Saskatchewan.....	—	—	—	113	12,004	25,739	43,291
†Victoria.....	British Columbia.....	3,270	5,925	16,841	20,919	31,660	38,727	39,082
†Trois Rivières.....	Quebec.....	7,570	8,670	8,334	9,981	13,691	22,367	35,450
*Kitchener.....	Ontario.....	2,743	4,054	7,425	9,747	15,196	21,763	30,793
*Brantford.....	Ontario.....	8,107	9,616	12,753	16,619	23,132	29,440	30,107
†Hull.....	Quebec.....	3,800	6,890	11,264	13,993	18,222	24,117	29,433
*Sherbrooke.....	Quebec.....	4,432	7,227	10,110	11,765	16,405	23,515	28,933
Outremont.....	Quebec.....	—	387	795	1,148	4,820	13,249	28,641
*Fort William.....	Ontario.....	—	—	—	3,633	16,499	20,541	26,277
†St. Catharines.....	Ontario.....	7,864	9,631	9,170	9,946	12,484	19,881	24,753
Westmount.....	Quebec.....	200	884	3,076	8,856	14,579	17,593	24,235
†Kingston.....	Ontario.....	12,407	14,091	19,263	17,961	18,874	21,753	23,439
*Oshawa.....	Ontario.....	3,185	3,992	4,066	4,394	7,436	11,940	23,439
*Sydney.....	Nova Scotia.....	—	1,480	2,427	9,909	17,723	22,545	23,089
†Sault Ste. Marie.....	Ontario.....	879	780	2,414	7,169	14,920 ⁴	21,092	23,082
†Peterborough.....	Ontario.....	4,611	6,812	9,717	12,886	18,360	20,994	22,327
*Moose Jaw.....	Saskatchewan.....	—	—	—	1,558	13,823	19,285	21,299
†Guelph.....	Ontario.....	6,878	9,890	10,587	11,496	15,175	18,128	21,075
*Glace Bay.....	Nova Scotia.....	—	—	2,459	6,945	16,562	17,007	20,706
*Moncton.....	New Brunswick.....	600	5,032	8,762	9,026	11,345	17,488	20,689
†Port Arthur.....	Ontario.....	—	—	—	3,214	11,220	14,886	19,818
†Niagara Falls.....	Ontario.....	1,600	2,347	3,349	5,702	9,243	14,764	19,046
†Lachine.....	Quebec.....	1,696	2,406	3,761	6,365	11,688 ⁵	15,404	18,630
*Sudbury.....	Ontario.....	—	—	—	2,027	4,150	8,621	18,518
†Sarnia.....	Ontario.....	2,929	3,874	6,692	8,176	9,947	14,877	18,191
*Stratford.....	Ontario.....	4,313	8,239	9,500	9,959	12,946	16,094	17,742
*New Westminster.....	British Columbia.....	—	1,500	6,678	6,499	13,199	14,495	17,524
*Brandon.....	Manitoba.....	—	—	3,778	5,620	13,839	15,397	17,082
*St. Boniface.....	Manitoba.....	—	1,283	1,553	2,019	7,483	12,821	16,305
*North Bay.....	Ontario.....	—	—	—	2,530	7,737	10,692	15,528
†St. Thomas.....	Ontario.....	2,197	8,367	10,366	11,485	14,054	16,026	15,430
†Shawinigan Falls.....	Quebec.....	—	—	—	—	4,265	10,625	15,345
*Chatham.....	Ontario.....	5,873	7,873	9,052	9,068	10,770	13,256	14,569
*East Windsor.....	Ontario.....	—	—	—	—	—	5,870	14,251
*Timmins.....	Ontario.....	—	—	—	—	—	3,843	14,200
*Galt.....	Ontario.....	3,827	5,187	7,535	7,866	10,299	13,216	14,006
†Belleville.....	Ontario.....	7,305	9,516	9,916	9,117	9,876	12,206	13,790

**11.—Populations of Cities and Towns having over 5,000 Inhabitants in 1931,
Compared with 1871-81-91-1901-11-21—continued.**

City or Town.	Province.	Population.						
		1871.	1881.	1891.	1901.	1911.	1921.	1931.
*Lethbridge.....	Alberta.....	—	—	—	2,072	9,035	11,097	13,489
†St. Hyacinthe.....	Quebec.....	3,746	5,321	7,016	9,210	9,797	10,859	13,448
*Owen Sound.....	Ontario.....	3,369	4,426	7,497	8,776	12,558	12,190	12,830
*Charlottetown.....	Prince Edward Island.....	7,667	10,345	10,098	10,718	9,883	10,814	12,361
†Chicoutimi.....	Quebec.....	1,393	1,935	2,277	3,826	5,880	8,937	11,877
*Lévis.....	Quebec.....	6,691	7,597	7,301	9,242	8,703	10,470	11,724
*Valleyfield (Salaberry de).....	Quebec.....	1,800	3,906	5,515	11,055	9,449	9,215	11,411
*Woodstock.....	Ontario.....	3,982	5,373	8,612	8,833	9,320	9,935	11,391
*St. Jean.....	Quebec.....	3,022	4,314	4,722	4,030	5,903	7,734	11,253
*Cornwall.....	Ontario.....	2,033	4,468	6,805	6,704	6,598	7,419	11,124
†Joliette.....	Quebec.....	3,047	3,268	3,347	4,220	6,346	9,639	10,761
*Sandwich.....	Ontario.....	1,160	1,143	1,352	1,450	2,302	4,415	10,715
*Welland.....	Ontario.....	1,110	1,870	2,035	1,863	5,318	8,654	10,701
Thetford Mines.....	Quebec.....	—	—	—	3,256	7,261	7,886	10,701
*Granby.....	Quebec.....	876	1,040	1,710	3,773	4,750	6,785	10,587
†Sorel.....	Quebec.....	5,636	5,791	6,669	7,057	8,420	8,174	10,329
†Medicine Hat.....	Alberta.....	—	—	—	1,570	5,608	9,634	10,303
Walkerville.....	Ontario.....	—	—	—	1,595	3,302	7,059	10,105
*Prince Albert.....	Saskatchewan.....	—	—	—	1,785	6,254	7,430	9,901
†Brookville.....	Ontario.....	5,102	7,609	8,791	8,940	9,374	10,043	9,730
Jonquière.....	Quebec.....	—	—	—	—	2,354	4,851	9,448
*Pembroke.....	Ontario.....	1,508	2,820	4,401	5,156	5,626	7,875	9,365
*Dartmouth.....	Nova Scotia.....	—	3,786	6,252	4,806	5,058	7,899	9,109
St. Jérôme.....	Quebec.....	1,159	2,032	2,868	3,619	3,473	5,491	8,967
*New Glasgow.....	Nova Scotia.....	—	2,595	3,776	4,447	6,383	8,974	8,858
*Fredericton.....	New Brunswick.....	6,006	6,218	6,502	7,117	7,208	8,114	8,830
Cap de la Madeleine.....	Quebec.....	—	—	—	—	—	6,738	8,748
*North Vancouver.....	British Columbia.....	—	—	—	—	8,196	7,652	8,510
†Rivière du Loup.....	Quebec.....	1,541	2,291	4,175	4,569	6,774	7,703	8,499
*Orillia.....	Ontario.....	1,322	2,910	4,752	4,907	6,828	7,631	8,133
*Waterloo.....	Ontario.....	1,594	2,066	2,941	3,537	4,359	5,883	8,095
*Truro.....	Nova Scotia.....	—	3,461	5,102	5,993	6,107	7,562	7,901
La Tuque.....	Quebec.....	—	—	—	—	2,934	5,603	7,871
*Barrie.....	Ontario.....	3,398	4,854	5,550	5,949	6,420	6,936	7,776
*Sydney Mines.....	Nova Scotia.....	—	2,340	2,442	3,191	7,470	8,327	7,769
*New Waterford.....	Nova Scotia.....	—	—	—	—	—	5,615	7,745
*Trail.....	British Columbia.....	—	—	—	1,360	1,460	3,020	7,573
*Lindsay.....	Ontario.....	4,049	5,080	6,081	7,003	6,964	7,620	7,505
*Amherst.....	Nova Scotia.....	—	2,274	3,781	4,964	8,973	9,998	7,450
New Toronto.....	Ontario.....	—	—	—	209	686	2,669	7,146
†Smith's Falls.....	Ontario.....	1,150	2,087	3,864	5,155	6,370	6,790	7,108
Launson.....	Quebec.....	—	3,556	3,551	3,416	3,978	4,966	7,084
*Yarmouth.....	Nova Scotia.....	2,500	3,485	6,089	6,430	6,600	7,073	7,055
†Midland.....	Ontario.....	—	1,095	2,088	3,174	4,663	7,016	6,920
*Mimico.....	Ontario.....	—	—	—	437	1,373	3,751	6,800
*Kenora.....	Ontario.....	—	—	1,806	5,202	6,158	5,407	6,766
*Nanaimo.....	British Columbia.....	—	1,645	4,595	6,130	6,254	6,559	6,741
Eastview.....	Ontario.....	—	—	—	776	3,169	5,324	6,681
†Drummondville.....	Quebec.....	—	900	1,955	1,450	1,725	2,852	6,609
*Portage la Prairie.....	Manitoba.....	—	—	3,363	3,901	5,892	6,766	6,597
*Campbellton.....	New Brunswick.....	—	—	—	2,652	3,817	5,570	6,505
†Port Colborne.....	Ontario.....	988	1,716	1,154	1,253	1,624	3,415	6,503
†Grand Mère.....	Quebec.....	—	—	—	2,511	4,783	7,631	6,461
†Edmundston.....	New Brunswick.....	—	—	—	—	1,821	4,035	6,430
*Springhill.....	Nova Scotia.....	—	900	4,813	4,559	5,713	5,681	6,350
†Prince Rupert.....	British Columbia.....	—	—	—	—	4,184	6,393	6,350
*Magog.....	Quebec.....	—	—	2,100	3,516	3,978	5,159	6,302
*Preston.....	Ontario.....	1,408	1,419	1,843	2,308	3,883	5,423	6,280
*Trenton.....	Ontario.....	1,796	3,042	4,363	4,217	3,988	5,902	6,276
Victoriaville.....	Quebec.....	—	1,474	1,300	1,693	3,028	3,759	6,213
*Kamloops.....	British Columbia.....	—	—	—	—	3,772	4,501	6,167
*North Sydney.....	Nova Scotia.....	—	1,520	2,513	4,646	5,418	6,585	6,139
*St. Lambert.....	Quebec.....	—	—	—	1,362	3,344	3,890	6,075
*Nelson.....	British Columbia.....	—	—	—	5,273	4,476	5,230	5,992
*North Battleford.....	Saskatchewan.....	—	—	—	—	2,105	4,108	5,986
†Cobourg.....	Ontario.....	4,442	4,957	4,829	4,239	5,074	5,327	5,834
*Collingwood.....	Ontario.....	2,829	4,445	4,039	5,755	7,090	5,882	5,809
Transcona.....	Manitoba.....	—	—	—	—	—	4,185	5,747
†Rimouski.....	Quebec.....	1,186	1,417	1,429	1,804	3,097	3,612	5,539
†Brampton.....	Ontario.....	2,090	2,920	3,252	2,748	3,412	4,527	5,532
*Fort Frances.....	Ontario.....	—	—	—	697	1,611	3,109	5,470
Longueuil.....	Quebec.....	2,083	2,355	2,757	2,835	3,972	4,682	5,407

11.—Populations of Cities and Towns having over 5,000 Inhabitants in 1931, Compared with 1871-81-91-1901-11-21—concluded.

City or Town.	Province.	Population.						
		1871.	1881.	1891.	1901.	1911.	1921.	1931.
St. Laurent.....	Quebec.....	—	—	1,184	1,390	1,860	3,232	5,348
*Renfrew.....	Ontario.....	865	1,605	2,611	3,153	3,846	4,906	5,296
*Swift Current.....	Saskatchewan.....	—	—	—	121	1,852	3,518	5,296
*Ingersoll.....	Ontario.....	4,022	4,318	4,191	4,573	4,763	5,150	5,233
*Simcoe.....	Ontario.....	1,856	2,645	2,674	2,627	3,227	3,953	5,226
Forest Hill.....	Ontario.....	—	—	—	—	—	—	5,207
Hawkesbury.....	Ontario.....	1,671	1,920	2,042	4,150	4,400	5,544	5,177
*Thorold.....	Ontario.....	1,635	2,456	2,273	1,979	2,273	4,825	5,092
*Whitby.....	Ontario.....	2,732	3,140	2,786	2,110	2,248	3,957	5,046
Swansea.....	Ontario.....	—	—	—	—	—	—	5,031
*Yorkton.....	Saskatchewan.....	—	—	—	700	2,309	5,151	5,027
*Dundas.....	Ontario.....	3,135	3,709	3,546	3,173	4,299	4,978	5,026
*Stellarton.....	Nova Scotia.....	—	—	—	2,335	3,910	5,312	5,002
*Weyburn.....	Saskatchewan.....	—	—	—	113	2,210	3,193	5,002

¹ Includes Maisonneuve, Cartierville, Bordeau and Sault-au-Récollet. Less asylum St. Jean de Dieu. ² Includes North Toronto, less 67 in 1911 transferred to Township of York. ³ Includes Strathcona and villages of North and West Edmonton. ⁴ Includes town of Stelton. ⁵ Includes parish of Lachine and Summerlea town. ⁶ Includes Notre-Dame de la Victoire. ⁷ Includes North Vancouver District. ⁸ Includes suburbs in 1901.

12.—Populations of Towns and Villages having between 1,000 and 5,000 Inhabitants in 1931, Compared with 1901, 1911 and 1921.

Town or Village.	1901.	1911.	1921.	1931.	Town or Village.	1901.	1911.	1921.	1931.
Prince Edward Island.					Quebec.				
Summerside.....	2,875	2,678	3,228	3,759	St. Jérôme de Matane....	1,176	2,056	3,050	4,757
Souris.....	1,140	1,089	1,094	1,063	Buckingham.....	2,936	3,854	3,835	4,638
Nova Scotia.					Montmorency.....	—	1,717	3,367	4,575
Westville.....	3,471	4,417	4,550	3,946	Montreal North.....	—	—	1,360	4,519
Bridgewater.....	2,203	2,775	3,147	3,262	Kenogami.....	—	—	2,557	4,500
Pictou.....	3,235	3,179	2,988	3,152	Asbestos.....	783	2,224	2,189	4,396
Kentville.....	1,731	2,304	2,717	3,033	Farnham.....	3,114	3,560	3,343	4,205
Windsor.....	3,398	3,452	2,946	3,032	St. Pierre.....	505	2,201	3,535	4,185
Inverness.....	306	2,719	2,963	2,900	Pointe Claire.....	555	793	2,617	4,058
Dominion.....	1,546	2,589	2,390	2,846	Coaticook.....	2,880	3,165	3,554	4,044
Lunenburg.....	2,916	2,681	2,792	2,727	St. Joseph d'Alma.....	—	—	850	3,970
Liverpool.....	1,937	2,109	2,294	2,669	Montmagny.....	1,919	2,617	4,145	3,927
Trenton.....	1,274	1,749	2,844	2,613	Mégantic.....	2,171	2,816	3,140	3,911
Parrsboro.....	3,391	2,856	2,748	1,919	Lachute.....	2,022	2,407	2,592	3,906
Wolfville.....	1,412	1,458	1,743	1,818	Beauharnois.....	1,976	2,015	2,250	3,729
Antigonish.....	1,838	1,787	1,746	1,764	Giffard.....	—	—	1,254	3,573
Canso.....	1,479	1,617	1,623	1,575	East Angus.....	—	—	3,802	3,566
Shelburne.....	1,445	1,435	1,360	1,474	Ste. Thérèse.....	1,541	2,120	3,043	3,292
Digby.....	1,150	1,247	1,230	1,412	Beauport.....	—	—	3,240	3,242
Wedgeport.....	1,026	1,392	1,424	1,294	Rouyn.....	—	—	—	3,225
Oxford.....	1,285	1,392	1,402	1,133	Montreal West.....	352	703	1,882	3,190
Bridgetown.....	858	996	1,085	1,126	Mont Joli.....	822	2,141	2,799	3,143
Malbone Bay.....	866	951	1,177	1,065	Pointe aux Trembles....	—	1,167	2,350	2,970
Port Hawkesbury.....	633	684	869	1,011	Ste. Agathe des Monts....	1,073	2,020	2,812	2,949
Joggins.....	1,088	1,648	1,732	1,000	Baie St. Paul.....	1,408	1,857	2,291	2,916
New Brunswick.					Nicolet.....	2,225	2,593	2,342	2,868
Chatham.....	4,868	4,666	4,506	4,017	Aylmer.....	2,291	3,109	2,970	2,835
Dalhousie.....	862	1,650	1,958	3,974	Charny.....	—	—	2,265	2,823
St. Stephen.....	2,840	2,836	3,452	3,437	St. Joseph de Grantham..	—	—	—	2,812
Newcastle.....	2,507	2,945	3,507	3,383	Iberville.....	1,512	1,905	2,454	2,778
Bathurst.....	1,044	960	3,327	3,300	Laprairie.....	1,451	2,388	2,158	2,774
Woodstock.....	3,644	3,856	3,380	3,259	Roberval.....	1,248	1,737	2,068	2,770
Sussex.....	1,398	1,906	2,198	2,252	Windsor.....	2,149	2,233	2,330	2,720
Sackville.....	1,444	2,309	2,173	2,234	Laval des Rapides.....	—	—	1,989	2,716
Devon.....	—	—	1,924	1,977	Donnacona.....	—	—	1,225	2,631
Shediac.....	1,075	1,442	1,973	1,883	Richmond.....	2,057	2,175	2,450	2,596
Milltown.....	2,044	1,804	1,976	1,735	Plessisville.....	1,586	1,559	2,032	2,536
Grand Falls.....	644	1,280	1,327	1,556	Bagotville.....	507	1,011	2,204	2,468
Marysville.....	1,892	1,837	1,614	1,512	Berthier.....	1,364	1,335	2,193	2,431
St. Andrews.....	1,064	987	1,065	1,207	Ste. Anne de Bellevue....	1,343	1,416	2,212	2,417
St. George.....	733	988	1,110	1,087	La Malbaie.....	826	1,449	1,883	2,408
					Mont Laurier.....	—	752	2,211	2,394
					Louiseville.....	1,565	1,675	1,772	2,365

12.—Populations of Towns and Villages having between 1,000 and 5,000 Inhabitants in 1931, Compared with 1901, 1911 and 1921—continued.

Town or Village.	1901.	1911.	1921.	1931.	Town or Village.	1901.	1911.	1921.	1931.
Quebec—continued.					Quebec—concluded.				
La Salle.....	-	-	726	2,362	St. Eustache.....	1,079	996	1,098	1,111
Saindon.....	-	-	1,793	2,355	Montreal South.....	-	790	1,030	1,111
Port Alfred.....	-	-	1,213	2,342	Dorion.....	275	631	833	1,111
Priceville.....	-	-	-	2,310	Cap Chat.....	-	-	-	1,111
Pointe Gatineau.....	1,583	1,751	1,919	2,282	Fort Coulonge.....	482	811	973	1,111
Loretteville.....	1,555	1,588	2,066	2,251	St. Joseph de la Rivière	-	-	864	1,111
Noranda.....	-	-	-	2,246	Bleue.....	-	-	-	1,111
Montreal East.....	-	-	1,776	2,242	Ste. Anne de Chicoutimi.	516	657	838	1,111
Waterloo.....	1,797	1,886	2,063	2,192	Rigaud.....	779	856	939	1,000
Cabano.....	-	-	-	2,187	Chateauguay.....	-	-	881	1,000
Mont Royal.....	-	-	160	2,174	L'Enfant Jésus.....	-	-	-	1,000
Black Lake.....	1,316	2,645	2,656	2,167	Rawdon.....	-	-	1,042	1,000
Amos.....	-	-	1,488	2,153	Beebe Plain.....	477	808	921	1,000
Dorval.....	481	1,005	1,466	2,052	St. Césaire.....	865	941	985	1,000
Dolbeau.....	-	-	-	2,030	Ville Marie.....	502	850	840	1,000
Masson.....	1,012	1,034	950	2,015	Rivière du Moulin.....	-	-	738	1,000
Almaville.....	-	-	1,174	2,010	Val Brilliant.....	-	-	962	1,000
St. Marc des Carrières..	296	1,224	1,492	1,997	Bic.....	-	-	912	1,000
Marioville.....	1,306	1,587	1,748	1,986	Notre Dame de Portneuf	-	-	877	1,000
St. Tite.....	991	1,438	1,783	1,969					
Terrebonne.....	1,822	1,990	2,056	1,955					
Lennoxville.....	1,120	1,211	1,554	1,927					
Ste. Anne de Beauré.....	847	2,066	1,648	1,901					
Charlesbourg.....	-	-	1,267	1,869					
St. Joseph (Richelieu)...	647	1,416	1,658	1,869	Leamington.....	2,451	2,652	3,675	4,900
East Broughton.....	206	996	1,709	1,868	Port Hope.....	4,188	5,092	4,456	4,700
Cowansville.....	699	881	1,094	1,859	Weston.....	1,083	1,875	3,166	4,700
Temiscamingue.....	-	-	-	1,855	Goderich.....	4,158	4,522	4,107	4,400
Trois Pistoles.....	-	-	1,454	1,837	Riverside.....	-	-	1,155	4,400
Quebec West.....	-	-	130	1,813	Wallaceburg.....	2,763	3,438	4,006	4,300
Arvida (city).....	-	-	-	1,790	Sturgeon Falls.....	1,418	2,199	4,125	4,200
St. Alexis de la Grande	-	-	-	-	Paris.....	3,229	4,098	4,368	4,100
Baie.....	-	1,355	1,735	1,790	Carleton Place.....	4,059	3,621	3,841	4,100
Lac au Saumon.....	-	1,171	1,354	1,779	Perth.....	3,588	3,588	3,790	4,000
St. Raymond.....	1,272	1,653	1,693	1,772	Bowmanville.....	2,731	2,814	3,233	4,000
Acton Vale.....	1,175	1,402	1,549	1,753	Penetanguishene.....	2,422	3,568	4,037	4,000
Chandler.....	-	-	1,756	1,741	Arnprior.....	4,152	4,405	4,077	4,000
Maniwaki.....	-	-	-	1,720	Cochrane.....	-	1,715	2,655	3,000
L'Epiphanie.....	-	-	-	1,705	Long Branch.....	-	-	-	3,000
Courville.....	-	-	1,293	1,678	Cobalt.....	-	5,638	4,449	3,800
Ste. Rose.....	1,154	1,480	1,811	1,661	Oakville.....	1,643	2,372	3,298	3,800
Deschailions.....	1,213	1,161	1,142	1,650	Kapuskasing.....	-	-	926	3,800
St. Benoit Joseph Labre	-	1,070	1,416	1,648	St. Mary's.....	3,384	3,388	3,847	3,800
St. Joseph (Beauce).....	1,117	1,440	1,445	1,625	Newmarket.....	2,125	2,996	3,626	3,800
Huntingdon.....	1,122	1,265	1,401	1,619	Gananoque.....	3,526	3,804	3,604	3,800
Greenfield Park.....	-	-	1,112	1,610	Pictou.....	3,698	3,564	3,356	3,800
Arthabaska.....	995	1,458	1,234	1,608	Bridgeburg.....	1,356	1,710	2,401	3,800
St. Félicien.....	-	581	1,306	1,599	Parry Sound.....	2,884	3,429	3,546	3,800
St. Marie.....	-	-	1,211	1,598	Napanee.....	3,143	2,807	3,038	3,800
L'Assomption.....	1,605	1,747	1,320	1,576	Dunnville.....	2,105	2,861	3,224	3,800
Bedford.....	1,364	1,432	1,669	1,570	Tillsonburg.....	2,241	2,758	2,974	3,800
St. Georges East.....	544	1,410	1,058	1,543	Copper Cliff.....	2,500	3,082	2,597	3,800
Lac St. Louis.....	-	-	597	1,537	Hanover.....	1,392	2,342	2,781	3,800
St. Gabriel de Brandon.	1,199	1,602	1,667	1,530	Burlington.....	1,119	1,831	2,709	3,800
St. Jacques.....	-	-	1,332	1,529	Prescott.....	3,019	2,801	2,636	2,800
St. Michel.....	-	-	493	1,528	Strathroy.....	2,933	2,823	2,691	2,800
Bromtonville.....	-	1,239	2,603	1,527	New Liskeard.....	-	2,108	2,268	2,800
Montebello.....	795	954	977	1,501	Huntsville.....	2,152	2,358	2,246	2,800
Disraeli.....	1,018	1,606	1,646	1,437	Haileybury.....	-	3,874	3,743	2,800
Beleil.....	702	1,501	1,418	1,434	Blind River.....	2,656	2,558	1,843	2,800
Rock Island.....	615	861	1,442	1,424	Amherstburg.....	2,222	2,560	2,769	2,800
Causapscal.....	-	-	-	1,390	Hespeler.....	2,457	2,368	2,777	2,800
Danville.....	1,017	1,331	1,290	1,354	Campbellford.....	2,485	3,051	2,890	2,800
Pont Rouge.....	-	-	1,419	1,353	Portsmouth.....	1,827	1,786	2,351	2,800
Pierreville.....	1,108	1,363	1,394	1,352	Listowel.....	2,693	2,289	2,477	2,800
Baie de Shawinigan.....	-	1,024	1,213	1,316	Meaford.....	1,916	2,811	2,650	2,800
St. Casimir.....	-	-	1,457	1,316	Orangeville.....	2,511	2,340	2,187	2,800
Thurso.....	525	601	538	1,292	Petrolia.....	4,135	3,518	3,148	2,800
Chambly Basin.....	849	900	1,068	1,287	Fergus.....	1,396	1,534	1,796	2,800
Laurentides.....	934	1,128	1,150	1,284	Aurora.....	1,590	1,901	2,307	2,800
La Providence.....	819	894	1,078	1,241	Merriton.....	1,710	1,670	2,544	2,800
St. Jérôme.....	498	719	923	1,235	Humberstone.....	-	-	1,524	2,800
St. Facome.....	-	-	-	1,235	Kincardine.....	2,077	1,956	2,077	2,800
L'Abor-là-Plouffe.....	-	-	-	1,011	Bracebridge.....	2,479	2,776	2,451	2,800
St. Rémi.....	1,080	1,021	1,135	1,201	Walkerton.....	2,971	2,601	2,344	2,800
Scotstown.....	791	933	987	1,189	Almonte.....	3,023	2,452	2,426	2,800
					Fort Erie.....	890	1,146	1,546	2,800

12.—Populations of Towns and Villages having between 1,000 and 5,000 Inhabitants in 1931, Compared with 1901, 1911 and 1921—continued.

Town or Village.	1901.	1911.	1921.	1931.	Town or Village.	1901.	1911.	1921.	1931.
Ontario—continued.					Ontario—concluded.				
Georgetown.	1,313	1,583	2,061	2,288	Arthur.	1,285	1,102	1,104	1,021
Aylmer.	2,204	2,102	2,194	2,283	Eganville.	1,107	1,189	1,015	1,020
Grimsby.	1,001	1,669	2,004	2,198	Stayner.	1,225	1,039	972	1,019
Kingsville.	1,537	1,427	1,783	2,174	Colborne.	1,017	999	932	1,015
Elmira.	1,050	1,782	2,016	2,170	Chesterville.	932	883	967	1,012
Tecumseh.	—	—	978	2,129	Markham.	967	909	1,012	1,008
Rockland.	1,998	3,397	3,496	2,118					
Sioux Lookout.	—	550	1,127	2,088					
Alexandria.	1,911	2,323	2,195	2,006	Manitoba.				
Tilbury.	1,012	1,368	1,673	1,992	Selkirk.	2,188	2,977	3,726	4,486
Wingham.	2,302	2,238	2,092	1,959	The Pas.	—	—	1,858	4,030
Essex.	1,391	1,353	1,588	1,954	Dauphin.	1,135	2,815	3,885	3,971
Ridgetown.	2,405	1,954	1,855	1,952	Brooklands.	—	—	—	2,462
Warton.	2,443	2,266	1,726	1,949	Neepawa.	1,418	1,864	1,887	1,910
Gravenhurst.	2,146	1,624	1,478	1,864	Minnedosa.	1,052	1,483	1,505	1,680
Acton.	1,484	1,720	1,722	1,855	Souris.	839	1,854	1,710	1,661
Milton.	1,372	1,654	1,873	1,839	Virten.	901	1,550	1,361	1,590
Mount Forest.	2,019	1,839	1,718	1,801	Carman.	1,439	1,271	1,591	1,418
Clinton.	2,547	2,254	2,018	1,789	Morden.	1,522	1,130	1,268	1,416
Durham.	1,422	1,581	1,494	1,750	Tuxedo.	—	—	1,062	1,173
Hlenheim.	1,653	1,387	1,565	1,737	Beauséjour.	—	847	994	1,139
Port Dover.	1,177	1,138	1,462	1,707	Stonewall.	589	1,005	1,112	1,031
Chesley.	1,743	1,734	1,708	1,699	Winkler.	391	458	812	1,005
Senforth.	2,245	1,983	1,829	1,686	Killarney.	585	1,010	871	1,003
Capreol.	—	—	1,287	1,684					
Exeter.	1,792	1,555	1,442	1,666	Saskatchewan.				
Port Credit.	—	—	1,123	1,635	Melville.	—	1,816	2,808	3,891
Thessalon.	1,205	1,945	1,651	1,632	Estevan.	141	1,981	2,290	2,936
Mattawa.	1,400	1,524	1,462	1,631	Biggar.	—	315	1,535	2,369
Mitchell.	1,945	1,766	1,800	1,588	Kamsack.	—	473	2,002	2,087
Brighton.	1,378	1,320	1,411	1,580	Humboldt.	—	859	1,822	1,899
Port Dalhousie.	1,125	1,152	1,492	1,547	Melfort.	—	599	1,746	1,801
Palmerston.	1,850	1,665	1,523	1,543	Shamavon.	—	—	1,146	1,761
Dresden.	1,613	1,551	1,339	1,529	Rosetown.	—	317	865	1,553
Southampton.	1,636	1,685	1,537	1,489	Lloydminster.	—	—	—	1,516
Forest.	1,553	1,445	1,422	1,480	Assiniboia.	—	—	1,006	1,454
Deseronto.	3,527	2,013	1,847	1,476	Indian Head.	768	1,285	1,439	1,438
Iroquois Falls.	—	—	1,178	1,476	Rosthern.	413	1,172	1,074	1,412
New Hamburg.	1,208	1,484	1,351	1,436	Watrous.	—	781	1,101	1,303
Keewatin.	1,156	1,242	1,327	1,422	Wilkie.	—	537	778	1,222
Morrisburg.	1,693	1,696	1,444	1,420	Canora.	—	435	1,230	1,179
Rainy River.	—	1,578	1,444	1,402	Maple Creek.	382	936	1,002	1,154
Caledonia.	801	952	1,223	1,396	Sutherland.	—	421	961	1,148
Hagersville.	1,020	1,106	1,169	1,385	Gravelbourg.	—	—	1,106	1,137
Vanklee Hill.	1,674	1,677	1,499	1,380	Moosomin.	868	1,143	1,099	1,119
Point Edward.	780	874	1,258	1,362	Battleford.	609	1,335	1,229	1,096
Alliston.	1,256	1,279	1,376	1,355	Tisdale.	—	250	783	1,069
Lakefield.	1,244	1,397	1,189	1,332	Wynyard.	—	515	849	1,042
Dryden.	140	715	1,019	1,326	Kindersley.	—	456	1,003	1,037
Uxbridge.	1,657	1,433	1,456	1,325	Herbert.	—	559	827	1,009
Cardinal.	1,378	1,111	1,241	1,319	Radville.	—	233	883	1,005
Port Elgin.	1,313	1,235	1,291	1,305					
Harrison.	1,637	1,491	1,263	1,296					
Richmond Hill.	629	652	1,055	1,295					
Kemptville.	1,523	1,192	1,204	1,286					
Tweed.	1,168	1,368	1,339	1,271					
Chippawa.	460	707	1,137	1,266					
Niagara.	1,258	1,318	1,357	1,228					
Waterford.	1,122	1,083	1,123	1,213					
Englehart.	—	670	759	1,210					
Beamsville.	832	1,096	1,256	1,203	Drumheller (city).	323	2,118	2,328	2,344
Flora.	1,187	1,197	1,136	1,195	Red Deer (city).	—	1,586	1,892	2,258
Havelock.	984	1,436	1,268	1,173	Camrose.	550	2,411	2,061	2,125
Port Perry.	1,465	1,148	1,143	1,163	Wetaskiwin (city).	—	1,465	1,394	1,849
Norwich.	1,269	1,112	1,176	1,158	Raymond.	—	1,557	1,590	1,704
Stouffville.	1,223	1,034	1,053	1,155	Coleman.	639	1,207	1,612	1,672
Cache Bay.	384	889	926	1,151	Cardston.	—	1,029	1,479	1,659
Victoria Harbour.	989	1,616	1,463	1,128	Vegreville.	231	1,137	1,552	1,629
Delhi.	823	825	733	1,121	Blairmore.	—	497	1,138	1,547
L'Orignal.	1,026	1,347	1,298	1,121	Edson.	—	—	1,364	1,490
Little Current.	728	1,208	923	1,101	Hanna.	—	—	1,061	1,464
Shelburne.	1,188	1,113	1,072	1,077	Grande Prairie.	153	1,182	1,198	1,559
Madoc.	1,157	1,058	1,058	1,059	High River.	796	1,844	1,723	1,447
Parkhill.	1,430	1,289	1,152	1,030	MacLeod.	—	1,400	1,705	1,279
Tavistock.	403	981	1,011	1,029	Taber.	—	625	1,272	1,270
Winchester.	1,101	1,143	1,126	1,027	Vermilion.	499	1,029	1,133	1,259
					Lacombe.	424	995	1,069	1,224
					Magrath.				

12.—Populations of Towns and Villages having between 1,000 and 5,000 Inhabitants in 1931, Compared with 1901, 1911 and 1921—concluded.

Town or Village.	1901.	1911.	1921.	1931.	Town or Village.	1901.	1911.	1921.	1931.
Alberta—concluded.					British Columbia				
Stettler.....	—	1,444	1,416	1,219	—concluded.				
Redcliff.....	—	220	1,137	1,192	Rossland.....(city)	6,156	2,826	2,097	2,848
Clareholm.....	—	809	963	1,156	Revelstoke.....(city)	1,600	3,017	2,782	2,731
Wainwright.....	—	788	975	1,147	Fernie.....(city)	—	3,146	4,343	2,732
Beverly.....	—	—	1,039	1,111	Prince George.....(city)	—	—	2,053	2,470
Olds.....	218	917	764	1,056	Chilliwack.....(city)	277	1,657	1,767	2,461
Innisfail.....	317	602	941	1,024	Cumberland.....(city)	732	1,237	3,176	2,371
Pincher Creek.....	335	1,027	888	1,024	Port Alberni.....(city)	—	—	1,056	2,354
Fort Saskatchewan.....	306	782	982	1,001	Duncan.....(city)	—	—	1,178	1,843
British Columbia.					Ladysmith.....(city)	746	3,295	1,967	1,443
Kelowna.....(city)	261	1,663	2,520	4,655	Mission.....	—	—	—	1,314
Vernon.....(city)	802	2,671	3,685	3,937	Port Coquitlam.....(city)	—	—	2,148	1,312
Cranbrook.....(city)	1,196	3,090	2,725	3,067	Grand Forks.....(city)	1,012	1,577	1,469	1,298
					Merritt.....(city)	—	703	1,721	1,266
					Port Moody.....(city)	—	—	1,030	1,263
					Courtenay.....(city)	—	—	810	1,219

Section 3.—Annual Estimates of Population.

While the populations in different countries are actually counted at decennial or quinquennial censuses, annual estimates of populations are required by modern states for many purposes, such as the calculation of birth, death and marriage rates, and of per capita figures of production, trade, finance, consumption, etc. In different countries various methods of obtaining annual figures of postcensal populations are adopted. For example, it is possible, with good vital statistics and records of arrivals and departures, to obtain the actual population at any particular date with approximate accuracy by the simple method of adding births and arrivals and subtracting deaths and departures during the period elapsed since the census. This method is impracticable for Canada, on account of her 4,000 miles of common boundary line with the United States, crossed every day by many thousands of people in both directions. In almost all civilized countries, the actual methods of making the estimates vary. Thus, the method of arithmetical progression is widely used in estimating the populations in the older countries of the world; this method involves the annual addition to the population of the country and of particular areas within it of one-fifth or one-tenth of the numerical increase in the last quinquennial or decennial intercensal period. In the case of Canada annual figures of population have been purely estimates prior to the 1931 census. They have now been worked out on a mathematical basis back to 1867 and the resulting figures with the method of computation follow.

These figures are believed to more accurately picture the populations at intercensal periods than any before published, but owing to their late appearance it has not been possible to revise per capita figures of finance, trade, manufactures, mining, etc., previous to 1921 in the following chapters.

New Method of Computing Yearly Estimates of the Population of Canada.¹—The calculations leading to the following yearly estimates of population are too lengthy to show in detail. In brief, the estimates shown from 1921 to 1931 correspond closely to pre-census calculations from births, deaths, school enrolments, immigrant arrivals etc., which calculations came close to the actual populations of most of the provinces in 1931, and to those of the prairie provinces in 1926. To make calculations for the past, data of this kind were not available, and use was made entirely of the correspondence between the increases in the

¹ This material has been supplied by M. C. MacLean, M.A., F.S.S., Chief of Census Analysis, Dominion Bureau of Statistics.

population and (1) the yearly number of immigrant arrivals, (2) the number of these arrivals still in Canada in the years of the census.

The calculations for 1867 to 1931 were built up as follows: a graduated yearly figure was obtained from the increases between decades, by means of smooth curves run successively through each set of two decades (three censuses); it remained to calculate from this smooth frame-work the extent to which the smoothness was disturbed from year to year. It is reasonable to believe that natural increase alone would tend to produce smooth yearly increases. Reason as well as observation showed that the yearly fluctuations were largely, if not wholly, due to immigration and emigration. It was also observed that the immigrant arrivals during the two years immediately preceding the census years were far more largely represented in the increase in immigrant population during the decade than the arrivals of the remaining eight years.¹ To obtain adequate weights for these considerations, a long-term trend of population growth was first obtained by running a logistic curve (commonly known as the Pearl and Reid curve) through 90 years of the above-mentioned graduated population (for 1841 and onward). The increases shown by this long-term trend were taken as representing the normal increases for these years around which the actual increases fluctuated. As controls for the fluctuations were taken: (1) the immigrant arrivals up to June 1 of the year calculated; (2) the arrivals of the second year preceding, and (3) the average yearly arrivals of the third to seventh years preceding the year calculated. The five years previous to those mentioned were experimented with without changing the results. It is remarkable that a negative weight was obtained for number (3), confirming the belief that where the population was increasing faster than normal the excess was thrown out within a short period.

The yearly estimates shown below (Table 13), therefore, reflect: (1) the normal increases, including natural increase and such additions as the existing size of the population could hold for a considerable period, (2) the fluctuating increases, which the population seemed to hold only for short periods, depending upon the size of the population, the size of the increases and the existing economic conditions. They also reflect emigration.

The results were correlated since 1867 with two indexes of economic conditions, one an index of business conditions and the other an index of wholesale prices, omitting the inflated years 1917-21. It is noteworthy that when the figures were recalculated with weights obtained from these business indexes they remained almost entirely unchanged. The estimates reflect to a high degree the long-term trend, to a lesser but still high degree the so-called business cycle, and, to some degree, the yearly fluctuation of business conditions.

The provincial estimates represent the Dominion estimates distributed among the provinces in proportion to the mean yearly increases of the provinces between census years. However births etc. were used as checks between 1921 and 1931.

The last column of Table 13 shows the calculation for a logistic curve, two cycles (before and after 1891) being shown instead of the continuous curve above mentioned. This column is valuable as showing what, judging from the past, is the steady yearly increase of the population at each stage—i.e. the increase which the population can hold more or less permanently. Thus the population at its size in 1931 would seem to be capable of retaining for a long period a yearly increase of about 170,000, while at its size in 1911 it could retain about 140,000.

¹ The following commentary on the foregoing speaks for itself: Increase in total population 1911-21—1,581,000, or an average of 158,000 a year. Increase in immigrant population 1911-21—368,775, or an average of 37,000 a year. Of this last increase, 145,294 arrived within one year and 215,279 arrived within two years of the census; further, 1,780,688 immigrants "intending settlers" arrived in Canada between 1911 and 1921.

13.—Estimates of the Population of Canada for Intercensal Years, by Provinces.

1867-1931.

(000's omitted.)

Year.	Can- ada.	P.E. Is- land.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yu- kon.	N.W. Terri- tories	Long-trend Growth of Population as Measured by Two Logistic Cycles.
1867.....	3,463	88	364	271	1,123	1,525	15	-	-	32	-	45	3,428
1868.....	3,511	90	369	274	1,137	1,545	17	-	-	33	-	46	3,491
1869.....	3,565	91	374	277	1,154	1,569	20	-	-	34	-	46	3,559
1870.....	3,625	92	381	282	1,171	1,594	22	-	-	36	-	47	3,621
1871.....	3,689	94	388	286	1,191	1,621	25	-	-	36	-	48	3,689
1872.....	3,754	96	394	290	1,208	1,651	29	-	-	37	-	49	3,752
1873.....	3,826	98	400	294	1,227	1,685	33	-	-	39	-	50	3,817
1874.....	3,895	99	406	298	1,246	1,718	37	-	-	40	-	51	3,880
1875.....	3,954	101	411	301	1,260	1,746	41	-	-	42	-	52	3,943
1876.....	4,009	102	415	304	1,275	1,774	44	-	-	43	-	52	4,005
1877.....	4,064	103	420	307	1,289	1,802	47	-	-	44	-	52	4,066
1878.....	4,120	104	425	310	1,304	1,829	50	-	-	45	-	53	4,126
1879.....	4,185	105	430	313	1,322	1,861	54	-	-	46	-	54	4,186
1880.....	4,255	107	435	317	1,341	1,894	58	-	-	48	-	55	4,245
1881.....	4,325	109	441	321	1,360	1,927	62	-	-	49	-	56	4,303
1882.....	4,375	109	442	321	1,372	1,946	71	-	-	54	-	60	4,361
1883.....	4,430	109	443	321	1,386	1,968	80	-	-	59	-	64	4,417
1884.....	4,487	109	445	321	1,401	1,988	90	-	-	64	-	69	4,472
1885.....	4,537	109	446	321	1,414	2,005	99	-	-	60	-	74	4,527
1886.....	4,580	109	446	321	1,424	2,020	108	-	-	74	-	78	4,581
1887.....	4,626	109	446	321	1,436	2,037	117	-	-	78	-	82	4,633
1888.....	4,678	109	447	321	1,449	2,057	126	-	-	83	-	86	4,685
1889.....	4,729	109	448	321	1,462	2,075	135	-	-	88	-	91	4,735
1890.....	4,779	109	449	321	1,475	2,093	144	-	-	93	-	95	4,785
1891.....	4,833	109	450	321	1,489	2,114	153	-	-	98	-	99	4,833
1892.....	4,883	108	451	322	1,504	2,119	163	-	-	106	-	110	4,884
1893.....	4,931	108	452	323	1,518	2,122	173	-	-	114	-	121	4,936
1894.....	4,979	107	452	323	1,532	2,128	183	-	-	122	-	132	5,000
1895.....	5,026	106	452	323	1,546	2,133	193	-	-	130	-	143	5,064
1896.....	5,074	105	453	324	1,560	2,137	203	-	-	138	-	154	5,128
1897.....	5,122	104	454	325	1,575	2,142	213	-	-	146	-	163	5,192
1898.....	5,175	104	455	326	1,591	2,149	223	-	-	154	-	173	5,256
1899.....	5,235	103	457	327	1,610	2,159	234	-	-	162	-	183	5,320
1900.....	5,301	103	459	329	1,630	2,172	245	-	-	170	-	193	5,384
1901.....	5,371	103	460	331	1,649	2,183	255	91	73	179	27	20	5,448
1902.....	5,494	101	459	331	1,670	2,194	275	125	96	199	25	19	5,512
1903.....	5,651	100	460	331	1,709	2,217	296	159	119	220	23	17	5,576
1904.....	5,827	99	463	333	1,752	2,246	318	194	142	242	22	16	5,640
1905.....	6,002	99	464	333	1,771	2,289	344	236	166	264	21	15	5,704
1906.....	6,197	96	465	334	1,784	2,299	366	258	185	279	18	13	5,768
1907.....	6,411	96	475	341	1,853	2,365	395	311	236	309	18	12	5,832
1908.....	6,625	95	480	345	1,902	2,412	413	356	266	330	15	11	5,896
1909.....	6,800	94	483	346	1,931	2,444	427	401	301	350	13	10	5,960
1910.....	6,988	94	486	348	1,965	2,482	441	446	336	370	11	9	6,024
1911.....	7,207	94	492	352	2,006	2,527	461	492	374	393	9	7	6,088
1912.....	7,389	94	496	356	2,042	2,572	481	525	400	407	9	7	6,152
1913.....	7,632	94	504	363	2,096	2,639	505	563	429	424	8	7	6,216
1914.....	7,879	95	512	371	2,148	2,705	530	601	459	442	8	8	6,280
1915.....	7,981	94	511	371	2,162	2,724	545	628	480	450	8	8	6,344
1916.....	8,001	92	505	368	2,154	2,713	554	648	496	456	7	8	6,408
1917.....	8,060	90	503	368	2,169	2,724	558	662	508	464	6	8	6,472
1918.....	8,148	89	502	369	2,191	2,744	565	678	522	474	6	8	6,536
1919.....	8,311	89	507	373	2,234	2,789	577	700	541	488	5	8	6,600
1920.....	8,556	89	516	381	2,299	2,863	594	729	565	507	5	8	6,664
1921.....	8,788	89	524	388	2,361	2,934	610	757	588	525	4	8	6,728
1922.....	8,919	89	522	389	2,409	2,980	616	769	592	541	4	8	6,792
1923.....	9,009	87	518	389	2,446	3,013	619	778	593	555	4	7	6,856
1924.....	9,142	86	516	391	2,495	3,059	625	791	597	571	4	7	6,920
1925.....	9,293	86	515	393	2,549	3,111	632	806	602	588	4	7	6,984
1926.....	9,450	87	515	396	2,603	3,164	639	821	608	606	4	7	7,048
1927.....	9,635	87	515	398	2,657	3,219	651	841	633	623	4	7	7,112
1928.....	9,833	88	515	401	2,715	3,278	664	862	658	641	4	7	7,176
1929.....	10,027	88	515	404	2,772	3,334	677	883	684	659	4	7	7,240
1930.....	10,206	88	514	406	2,825	3,386	689	903	708	676	4	7	7,304
1931.....	10,374	88	513	408	2,874	3,432	700	922	732	694	4	7	7,368

NOTE.—Those statistics resulting from the 1931 census which were available at the time this Chapter was printed have been given above under their respective headings. In Appendix II will be found additional material made available by the time the final chapters of the Year Book went to press.

CHAPTER V.—VITAL STATISTICS.¹

The collection of vital statistics commenced in Canada, as in England, with the registration of baptisms, marriages and burials by the ecclesiastical authorities. These registers, maintained by the priests from the first settlement of the country, have made it possible for the vital statistics of the French colony to be compiled from the year 1610.² In the beginning only one copy of such records was made but in 1678 the Sovereign Council of Quebec ordered that in future such records should be made in duplicate, and that one copy, duly authenticated, should be delivered to the civil authorities. This arrangement was continued after the cession of the country to Great Britain, and was extended to the newly-formed Protestant congregations by an Act of 1795, but the registration among these latter remained seriously defective, both in Lower Canada and in the new province of Upper Canada.

In English-speaking Canada vital statistics were from the commencement incomplete, the pioneer settlers often going out into the wilds far from the authority of government and the ministrations of religion. While a law existed in Upper Canada requiring ministers of religion to deposit duplicates of their registers of baptisms, marriages and deaths with the clerks of the peace for transmission to the Provincial Secretary, this law remained practically a dead letter. Again, the efforts made to secure records of births and deaths at the censuses of 1851 and 1861 produced most unsatisfactory and even ridiculous results, as was pointed out by Mr. J. C. Taché, Secretary of the Board of Registration and Statistics, in a memorial published in the report of the Canadian Minister of Agriculture for 1865. Nevertheless, in spite of the inherent unsoundness of securing, at a point of time in a decennial census, a record of births and deaths occurring over a considerable period of time, this method was persisted in down to 1911, when the obviously untrustworthy character of the results obtained led to the discarding of the data obtained at the inquiry.

The Dominion Government instituted in the early '80's a plan for compiling the annual mortuary statistics of cities of 25,000 population and over, by subsidizing local boards of health to supply the information under special regulations. A beginning was made with the five cities of Montreal, Toronto, Hamilton, Halifax and Saint John. By 1891 the list had grown to 25, at a time when in most of the provinces the only birth and death statistics were those of the municipalities. Upon the organization of provincial bureaus of vital statistics, however, this work was abandoned, though a conference of Dominion and provincial officials, held in 1893, passed a resolution calling upon the provincial and Dominion authorities to co-operate in the work of collecting, compiling and publishing the vital statistics of the Dominion. This resolution had no immediate practical results in securing accurate or comparable vital statistics.

Since Confederation each of the provinces of the Dominion has enacted its own legislation on vital statistics and administered such legislation according to its own individual methods. While the vital statistics of Ontario were published in considerable detail annually from 1871, the arrangements for the collection of data were unsatisfactory. Only in 1906 was the publication of vital statistics begun in

¹ This chapter has been revised by E. S. Macphail, Chief, Demography Branch, Dominion Bureau of Statistics. A list of the publications of this Branch will be found in Chapter XXIX, Section 1, under "Population".

² For a summary of the vital statistics of the Roman Catholic population from 1610 to 1883, see the Statistical Year Book of Quebec, 1921, English or French edition, p. 51. For details by years of this movement of population, see Vol. V of the Census of Canada, 1871, pp. 160-265, and Vol. IV of the Census of Canada, 1881, pp. 134-145.

Prince Edward Island (no report for 1912 was ever issued), and in Nova Scotia the publication of vital statistics dates only from 1909. Because of the *lacunæ*, and even more because of the incomparability of information collected, of methods of collection and of standard of enforcement, Canadian vital statistics remain extremely unsatisfactory and impossible of compilation on a national basis, as was pointed out by the 1912 Commission on Official Statistics, which recommended that "for the Dominion, now engaged in building up its national unity, it is important that uniform data should render possible to statisticians the institution of true interprovincial and international comparisons. By effective co-operation of the provinces with the Dominion, this object should be capable of attainment without sacrificing the liberty of each province to satisfy its own special statistical requirements".

The scheme of co-operation thus outlined was brought into effect as a consequence of the establishment of the Dominion Bureau of Statistics under the Statisticians Act of 1918, which specifically provided that the Bureau should publish an annual report on vital statistics. A scheme was first drawn up in the Bureau and submitted to the various provinces; then Dominion-Provincial conferences on vital statistics were held in June and December, 1918, when comprehensive and fruitful discussions took place.

At the conferences of 1918, it was agreed: (1) that the model Vital Statistics Act prepared by the Dominion Bureau of Statistics, when accepted by the Legislatures, should form the basis of the vital statistics legislation of the several provinces thus securing uniformity and comparability; (2) that the provinces should undertake to obtain the returns of births, marriages and deaths on the prescribed forms as approved and adopted at the conference, the Dominion Bureau of Statistics to supply the forms free of charge; (3) that the provinces should forward to the Dominion Bureau of Statistics, at such times as might be agreed upon, either the original returns of births, marriages and deaths, or certified transcriptions of the same; the Bureau of Statistics to undertake the mechanical compilation and tabulation.

Under the scheme outlined above, the vital statistics for all the provinces except Quebec were secured and compiled on a uniform basis for the years 1921 to 1929. The annual reports for these years may be obtained on application to the Dominion Statistician.

Quebec has been included in the registration area as from Jan. 1, 1926, from which date her statistics are on a comparable basis with those of the other provinces. The final reports for 1926, 1927, 1928, 1929 and 1930, including the statistics of all the nine provinces, have appeared and may be procured from the Dominion Statistician.¹

Two important considerations should be borne in mind by the students who use either these tables or the detailed reports for comparative purposes. First, in spite of the improvements of the past decade, registration generally, and the registration of births in particular, is not universally carried out. The great extent of the country and the isolation of many of its inhabitants partly account for this unsatisfactory situation. Secondly, the differences in the age and sex distribution of the population in different provinces make comparisons of crude birth rates and crude death rates as among the provinces unfair and misleading.

¹ The vital statistics of the Yukon and Northwest Territories are duly collected and analysed, but are not presented with those of the nine provinces because the figures are not regarded as complete, the data are in many cases not available and the small and varying population is not known with sufficient accuracy for each year to enable the rates to be calculated. As these Territories contain only about 1/900 of the population of Canada, their vital statistics are a negligible factor in the total. See page 134 for their figures for 1924-29.

All rates in this chapter have been recalculated on the basis of the revised estimates of population given on p. 110.

The natural increase of the population of Canada is first dealt with, followed by detailed tables of births, marriages and deaths in the order named.

Section 1.—Natural Increase.

Summary statistics of the births, marriages, deaths and natural increase per 1,000 of population are given for the years 1921 to 1930, by provinces, in Table 1.

The province of Quebec is regarded as having one of the highest rates of natural increase per 1,000 population of any civilized area, but in every year since 1926 Saskatchewan has outranked Quebec in this respect, owing to its younger population and lower crude death rate, as will be seen from the figures. In 1930, for similar reasons, Alberta also surpassed Quebec in rate of natural increase. The high rates for these provinces brought the averages for Canada up to 13.3 in 1926, 13.4 in 1927, 13.0 in 1928, 12.2 in 1929 and 13.2 in 1930. The rate of natural increase in 1929 was 10.8 per 1,000 in Australia, 10.2 in New Zealand, 2.9 in England and Wales, 4.5 in Scotland and 5.2 in the Irish Free State, so that Canada compares quite favourably with other British countries.

BIRTH RATES, DEATH RATES AND RATES OF NATURAL INCREASE IN CANADA AND ITS PROVINCES

1929

PER 1,000 POPULATION

	BIRTH RATE	DEATH RATE	NATURAL INCREASE
CANADA	23.5	11.3	12.2
PRINCE EDWARD ISL.	19.0	12.8	6.2
NOVA SCOTIA	20.8	12.9	7.9
NEW BRUNSWICK	25.3	12.9	12.4
QUEBEC	29.4	13.4	16.0
ONTARIO	20.5	11.4	9.1
MANITOBA	21.0	8.6	12.4
SASKATCHEWAN	24.3	7.6	16.7
ALBERTA	24.7	9.1	15.6
BRITISH COLUMBIA	15.7	9.7	6.0

The rates of natural increase per 1,000 of mean population or other countries in the latest years are as follows, the figures being for 1929 unless otherwise stated: Denmark, 7.4; Japan, 13.0; Netherlands, 12.1; Norway, 5.8; Finland, 8.1 (1928); Italy, 9.0; Switzerland, 4.6; Sweden, 3.0; Spain, 10.9; France, -0.3; Belgium, 3.2; United States (registration area), 7.0; Union of South Africa (whites), 16.7.

It will be noticed that the rate of natural increase of the population of Canada showed a tendency to decline between the years 1927 and 1929 and the 1926¹ rate of 13.3 was a very sharp drop from those of 15.8 and 15.3 recorded for 1924 and 1925 respectively. The rate for 1930 however shows a decided improvement over 1929.

Statistics of the births, marriages, deaths and natural increase in cities of 10,000 and over are given for the calendar year 1929 in Table 2, but these are not worked out as rates per 1,000 of population, though the census population in 1930 which is also given, furnishes some guide to the rate of natural increase. Particularly notable in this table is the larger proportionate number of births in such cities as Montreal and Quebec, as compared with Toronto, Hamilton, Ottawa and other cities of corresponding size. This greatly higher birth rate is in part counterbalanced by a considerably higher death rate, but the natural increase in Quebec cities is still considerably higher than in the cities of other provinces.

1.—Summary of Births, Marriages, Deaths and Natural Increase, by Provinces, for the calendar years 1926-30, with Averages 1921-25 and 1926-30.

NOTE.—Birth, marriage and death rates are calculated on estimated populations (see p. 110), except that for 1926 the figures of the quinquennial census of the Prairie Provinces are used for these provinces. Figures for 1921-25 will be found at p. 160 of the 1927-28 Year Book.

Province.		Births.	Birth rate per 1,000 population.	Marri- ages.	Marri- age rate per 1,000 population.	Deaths.	Death rate per 1,000 population.	Excess of Births over Deaths.	Rate of Natural Increase per 1,000 population.
Prince Edward Island.	Av. 1921-25	1,966	22.6	473	5.4	1,085	12.5	881	10.1
	Av. 1926-30	1,734	19.7	473	5.4	969	11.0	765	8.7
	1926	1,752	20.1	459	5.3	898	10.3	854	9.8
	1927	1,697	19.5	482	5.5	913	10.5	784	9.0
	1928	1,806	20.5	466	5.3	952	10.8	854	9.7
	1929	1,670	19.0	469	5.3	1,122	12.8	548	6.2
	1930	1,749	19.9	488	5.5	961	10.9	788	9.0
Nova Scotia.....	Av. 1921-25	12,119	23.4	3,186	6.1	6,519	12.6	5,600	10.8
	Av. 1926-30	11,016	21.4	3,224	6.3	6,362	12.4	4,654	9.0
	1926	10,980	21.3	2,861	5.6	6,366	12.4	4,614	8.9
	1927	11,134	21.6	3,042	5.9	6,378	12.4	4,756	9.2
	1928	10,931	21.2	3,256	6.3	6,202	12.0	4,729	9.2
	1929	10,688	20.8	3,510	6.8	6,660	12.9	4,028	7.9
	1930	11,346	22.1	3,451	6.7	6,206	12.1	5,140	10.0
New Brunswick.....	Av. 1921-25	11,080	28.4	2,953	7.6	5,093	13.1	5,987	15.3
	Av. 1926-30	10,327	25.8	2,970	7.4	5,019	12.5	5,308	13.3
	1926	10,340	26.1	2,938	7.4	5,002	12.6	5,338	13.8
	1927	10,479	26.3	2,887	7.3	4,902	12.3	5,577	14.1
	1928	10,047	25.1	3,146	7.8	4,972	12.4	5,075	12.7
	1929	10,235	25.3	3,118	7.7	5,230	12.9	5,005	12.2
	1930	10,534	25.9	2,761	6.8	4,991	12.3	5,543	13.6
Quebec ¹	Av. 1926-30	82,771	30.5	18,731	6.9	36,645	13.5	46,126	17.0
	1926	82,165	31.6	17,827	6.8	37,251	14.3	44,914	17.3
	1927	83,064	31.3	18,551	7.0	36,175	13.6	46,889	17.7
	1928	83,621	30.8	19,126	7.0	36,632	13.5	46,989	17.3
	1929	81,380	29.4	19,610	7.1	37,221	13.4	44,159	16.0
	1930	83,625	29.6	18,543	6.6	35,945	12.7	47,680	16.9
Ontario.....	Av. 1921-25	71,454	23.7	24,037	8.0	34,252	11.3	37,202	12.9
	Av. 1926-30	68,703	21.0	25,449	7.8	36,650	11.2	32,053	9.9
	1926	67,617	21.4	23,632	7.5	35,909	11.3	31,708	10.3
	1927	67,671	21.0	24,677	7.7	34,775	10.8	32,896	10.5
	1928	68,510	20.9	25,728	7.8	37,128	11.3	31,382	9.4
	1929	68,458	20.5	27,605	8.3	38,123	11.4	30,335	9.3
	1930	71,263	21.0	25,605	7.6	37,313	11.0	33,950	10.4
Manitoba.....	Av. 1921-25	16,590	26.8	4,634	7.5	5,348	8.6	11,242	13.3
	Av. 1926-30	14,391	21.7	4,951	7.5	5,507	8.3	8,884	13.3
	1926	14,661	22.9	4,537	7.1	5,335	8.3	9,326	14.0
	1927	14,147	21.7	4,716	7.2	5,309	8.2	8,838	13.4
	1928	14,504	21.8	5,170	7.8	5,396	8.1	9,108	13.1
	1929	14,236	21.0	5,269	7.8	5,808	8.6	8,428	12.9
	1930	14,411	20.9	5,061	7.3	5,685	8.3	8,726	12.9

¹Quebec not included in present registration area prior to 1926.

1.—Summary of Births, Marriages, Deaths and Natural Increase, by Provinces, for the calendar years 1926-30, with Averages 1921-25 and 1926-30—concluded.

Province.	Births.	Birth rate per 1,000 popu- lation.	Marri- ages.	Marri- age rate per 1,000 popu- lation.	Deaths.	Death rate per 1,000 popu- lation.	Excess of Births over Deaths.	Rate of Natural Increase per 1,000 popu- lation.	
Saskatchewan.....	Av. 1921-25	21,580	27.7	4,982	6.4	5,859	7.5	15,721	20.2
	Av. 1926-30	21,298	24.7	6,036	7.0	6,256	7.3	15,042	17.4
	1926	20,716	25.2	5,483	6.7	6,060	7.4	14,656	17.8
	1927	21,015	25.0	5,733	6.8	6,031	7.2	14,984	17.8
	1928	21,261	24.7	6,701	7.8	6,166	7.2	15,095	17.5
	1929	21,446	24.3	6,548	7.4	6,715	7.6	14,731	16.7
	1930	22,051	24.4	5,717	6.3	6,309	7.0	15,742	17.4
Alberta.....	Av. 1921-25	15,461	26.0	4,313	7.3	4,953	8.3	10,508	17.7
	Av. 1926-30	15,924	24.2	5,265	8.0	5,530	8.4	10,394	15.8
	1926	14,456	23.8	4,503	7.4	5,159	8.5	9,297	15.3
	1927	14,897	23.5	4,707	7.4	5,059	8.0	9,838	15.5
	1928	15,692	23.8	5,776	8.8	5,699	8.7	9,993	15.1
	1929	16,924	24.7	6,004	8.8	6,239	9.1	10,685	15.6
	1930	17,649	24.9	5,334	7.5	5,496	7.8	12,153	17.1
British Columbia.....	Av. 1921-25	10,256	18.4	3,971	7.1	4,812	8.7	5,444	9.7
	Av. 1926-30	10,356	16.2	4,786	7.5	5,986	9.3	4,370	6.9
	1926	10,063	16.6	4,418	7.3	5,474	9.0	4,589	7.6
	1927	10,084	16.2	4,720	7.6	5,750	9.2	4,334	7.0
	1928	10,385	16.2	4,942	7.7	5,910	9.2	4,475	7.0
	1929	10,378	15.7	5,155	7.8	6,397	9.7	3,981	6.0
	1930	10,867	16.1	4,697	6.9	6,400	9.5	4,467	6.6
Canada (Exclusive of the Territories).	Av. 1926-30	236,520	24.1	71,885	7.3	108,924	11.1	127,596	13.0
	1926	232,750	24.7	66,658	7.1	107,454	11.4	125,296	13.3
	1927	234,188	24.3	69,515	7.2	105,292	10.9	128,896	13.4
	1928	236,757	24.1	74,311	7.6	109,057	11.1	127,700	13.0
	1929	235,415	23.5	77,288	7.7	113,515	11.3	121,900	12.2
	1930	243,495	23.9	71,657	7.0	109,306	10.7	134,189	13.2

2.—Summary of Births, Marriages, Deaths and Natural Increase, in Cities of 10,000 and over, for the calendar year 1929.¹

Province and City.	Census Population, 1931.	Births.	Marriages.	Deaths.	Excess of Births over Deaths.
Prince Edward Island—					
Charlottetown.....	12,361	266	142	310	-44
Nova Scotia—					
Halifax.....	59,275	1,454	758	987	467
Sydney.....	23,089	502	196	186	316
Glace Bay.....	20,706	667	169	289	378
New Brunswick—					
Saint John.....	47,514	1,150	513	786	364
Moncton.....	20,689	561	243	243	318
Quebec—					
Montreal.....	818,577	20,622	7,100	11,452	9,170
Quebec.....	130,594	4,456	935	2,251	2,205
Verdun.....	60,745	1,095	364	425	670
Hull.....	29,433	906	280	327	579
Sherbrooke.....	28,933	818	283	481	337
Three Rivers.....	35,450	1,289	250	592	697
Westmount.....	24,235	51	319	152	-101
Lachine.....	18,630	464	127	200	264
Outremont.....	28,641	127	129	128	-1
St. Hyacinthe.....	13,448	362	117	332	30
Shawinigan Falls.....	15,345	642	96	212	430
Lévis.....	11,724	310	59	215	95
Ontario—					
Toronto.....	631,207	12,485	7,929	7,100	5,385
Hamilton.....	155,647	3,166	1,535	1,612	1,554
Ottawa.....	126,872	2,924	1,018	1,773	1,151
London.....	71,148	1,364	691	1,126	238
Windsor.....	63,108	1,654	989	689	965
Brantford.....	30,107	712	307	405	307
Kitchener.....	30,793	812	332	294	518
Kingston.....	23,439	619	248	536	83
Sault Ste. Marie.....	23,082	665	241	209	456
Fort William.....	26,277	645	248	244	401
Peterborough.....	22,327	617	244	347	270
St. Catharines.....	24,753	570	280	345	225
Guelph.....	21,075	380	228	245	135
Stratford.....	17,742	377	164	203	174

¹Cities which were under 10,000 population according to the census of 1921, but exceeding that figure in the census of 1931 are not included in the table.

2.—Summary of Births, Marriages, Deaths and Natural Increase, in Cities of 10,000 and over, for the calendar year 1929¹—concluded.

Province and City.	Census Population, 1931.	Births.	Marriages.	Deaths.	Excess of Births over Deaths.
Ontario—concluded.					
St. Thomas.....	15,430	306	138	243	6
Port Arthur.....	19,818	582	234	233	349
Sarnia.....	18,191	470	168	233	237
Niagara Falls.....	19,046	501	255	266	235
Chatham.....	14,569	475	182	315	160
Galt.....	14,006	284	114	167	117
Belleville.....	13,790	366	161	241	125
Owen Sound.....	12,839	376	142	176	200
Oshawa.....	23,439	727	251	214	513
North Bay.....	15,528	406	129	166	240
Brockville.....	9,736	241	88	200	41
Manitoba—					
Winnipeg.....	218,785	4,452	2,784	1,814	2,638
Brandon.....	17,082	406	265	279	127
St. Boniface.....	16,305	893	144	529	360
Saskatchewan—					
Regina.....	53,209	1,517	943	555	964
Saskatoon.....	43,291	1,137	869	499	638
Moose Jaw.....	21,299	629	365	230	394
Alberta—					
Calgary.....	83,761	2,006	1,361	874	1,135
Edmonton.....	79,197	2,271	1,425	988	1,283
Lethbridge.....	13,489	487	307	217	270
British Columbia—					
Vancouver.....	246,593	3,869	2,585	2,310	1,554
Victoria.....	39,082	754	329	590	165
New Westminster.....	17,524	537	229	291	246

¹Cities which were under 10,000 population according to the census of 1921, but exceeding that figure in the census of 1931 are not included in the table.

Natural Increase by Sex.—According to Table 3, the number of male children born in 1929 in Canada exceeded the total male deaths for the year by 59,971 while the gain in the female population during the same period was 61,929. Thus while the number of male children born exceeded the females by 6,367, the higher mortality among males, *viz.*, 60,920 as compared with 52,595, resulted in a net excess of the natural increase of the females amounting to 1,958. Figures for 1930 are as follows: males, births 124,852, deaths 59,109, natural increase 65,743; females births 118,643, deaths 50,197, natural increase 68,446.

3.—Excess of Births over Deaths in Canada, by Provinces and for each Sex, 1929, with Totals for 1921-29.

Province.	Males.			Females.			Both Sexes.
	Births.	Deaths.	Excess of Births over Deaths.	Births.	Deaths.	Excess of Births over Deaths.	
Prince Edward Island..	856	595	261	814	527	287	548
Nova Scotia.....	5,487	3,516	1,971	5,201	3,144	2,057	4,028
New Brunswick.....	5,240	2,718	2,522	4,995	2,512	2,483	5,005
Quebec.....	41,893	19,235	22,658	39,487	17,986	21,501	44,159
Ontario.....	35,154	20,281	14,873	33,304	17,842	15,462	30,335
Manitoba.....	7,330	3,247	4,083	6,906	2,561	4,345	8,428
Saskatchewan.....	11,002	3,794	7,208	10,444	2,921	7,523	14,731
Alberta.....	8,637	3,504	5,133	8,287	2,735	5,552	10,685
British Columbia.....	5,292	4,030	1,262	5,086	2,367	2,719	3,981
Totals, 1929.....	120,891	60,920	59,971	114,524	52,595	61,929	121,900
Totals, 1928.....	121,505	58,480	63,025	115,252	50,577	64,675	127,700
Totals, 1927.....	120,655	56,265	64,390	113,533	49,027	64,506	128,839
Totals, 1926.....	119,863	56,979	62,884	112,887	50,175	62,712	125,596
Totals, 1925.....	124,686	52,450	72,236	117,702	46,327	71,375	143,611
Totals, 1924.....	125,590	52,227	73,363	118,935	46,326	72,609	145,972
Totals, 1923.....	124,093	55,490	68,513	116,473	49,840	66,633	135,111
Totals, 1922.....	129,055	54,505	74,550	123,516	47,982	75,534	150,084
Totals, 1921.....	133,839	53,685	80,154	123,889	47,470	76,419	156,553

Section 2.—Births.

Throughout almost the whole of the civilized world the birth rate has in the past generation been on the decline, though the consequent decline in the rate of natural increase has to a considerable extent been lessened by the synchronous decline in the death rate.

The crude birth rate of England and Wales, for example, was 35.4 per 1,000 population on the average of the decennium 1871-80, 32.5 in 1881-90 and 29.9 in 1891-1900. In 1913 the birth rate was 24.1, and, though it rose to 25.5 in 1920, it fell again to 22.4 in 1921, 19.7 in 1923, 18.8 in 1924, 18.3 in 1925, 17.8 in 1926, 16.6 in 1927, 16.7 in 1928 and 16.3 in 1929.

Similarly, in France the crude birth rate declined from an average of 25.4 per 1,000 population in the 1870's, 23.9 in the 1880's and 22.2 in the 1890's to 21.4 in 1920 and 19.1 in 1923, rising slightly to 19.0 in 1925 and falling to 18.8 in 1926, 18.2 in 1927, 18.2 in 1928 and 17.7 in 1929. In Germany, again, the crude birth rate was 39.1 in the 1870's, 36.8 in the 1880's, 36.1 in the 1890's, 23.0 in 1922, 20.7 in 1925, 19.5 in 1926, 18.4 in 1927, 18.6 in 1928 and 17.9 in 1929.

In Canada the crude birth rate still stands at a comparatively high figure, being 23.9 per 1,000 in 1930. This, however, is largely due to the influence of Quebec, where the birth rate stood at the high figure of 29.6 per 1,000 in 1930, as compared with 21.0 per 1,000 in Ontario. In the other provinces the figures varied from 16.1 and 19.9 per 1,000 in British Columbia and Prince Edward Island to 24.9 and 25.9 in Alberta and New Brunswick respectively.

Statistics of births and birth rates for the years 1926-30 with averages for 1921-25 and 1926-30 are given by provinces in Table 4. The averages for the former period are exclusive of the province of Quebec which was not then in the registration area.

4.—Number of Living Births and Birth Rates, by Provinces, 1926-30 with Averages 1921-25 and 1926-30.

A.—LIVING BIRTHS.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Average 1921-25.....	1,966	12,119	11,080	¹	71,454	16,590	21,580	15,461	10,256	¹
Average 1926-30.....	1,734	11,016	10,327	82,771	68,703	14,391	21,298	15,924	10,356	236,520
1926.....	1,752	10,900	10,340	82,165	67,617	14,661	20,716	14,456	10,063	232,750
1927.....	1,697	11,134	10,479	83,064	67,671	14,147	21,015	14,897	10,084	234,188
1928.....	1,806	10,931	10,047	83,621	68,510	14,504	21,261	15,692	10,385	236,757
1929.....	1,670	10,688	10,235	81,380	68,458	14,236	21,446	16,924	10,378	235,415
1930.....	1,749	11,346	10,534	83,625	71,263	14,411	22,051	17,649	10,867	243,495

B.—BIRTH RATE PER 1,000 POPULATION.

	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Average 1921-25.....	22.6	23.4	28.4	¹	23.7	26.8	27.7	26.0	18.4	¹
Average 1926-30.....	19.7	21.4	25.8	30.5	21.0	21.7	24.7	24.2	16.2	24.1
1926.....	20.1	21.3	26.1	31.6	21.4	22.9	25.2	23.8	16.6	24.7
1927.....	19.5	21.6	26.3	31.3	21.0	21.7	25.0	23.5	16.2	24.3
1928.....	20.5	21.2	25.1	30.8	20.9	21.8	24.7	23.8	16.2	24.1
1929.....	19.0	20.8	25.3	29.4	20.5	21.0	24.3	24.7	15.7	23.5
1930.....	19.9	22.1	25.9	29.6	21.0	20.9	24.4	24.9	16.1	23.9

¹ Quebec not included in present registration area prior to 1926.

Table 5 gives the number of living births in cities of 10,000 population and over for the years 1926 to 1930 inclusive. The number of births reported for the cities shows in most cases an increase in recent years.

5.—Living Births in Cities of 10,000 Population and Over, 1926-30.¹

City.	1926.	1927.	1928.	1929.	1930.
Belleville, Ont.....	347	371	371	366	365
Brandon, Man.....	387	376	419	406	393
Brantford, Ont.....	610	647	711	712	733
Brockville, Ont.....	189	204	217	241	270
Calgary, Alta.....	1,568	1,641	1,752	2,006	2,095
Charlottetown, P.E.I.....	288	271	273	266	336
Chatham, Ont.....	436	453	494	475	535
Edmonton, Alta.....	1,858	1,940	2,149	2,271	2,390
Fort William, Ont.....	642	602	664	645	622
Galt, Ont.....	260	285	266	284	311
Glace Bay, N.S.....	602	666	681	667	745
Guelp, Ont.....	405	418	362	380	405
Halifax, N.S.....	1,359	1,494	1,425	1,454	1,557
Hamilton, Ont.....	2,774	2,866	3,007	3,166	3,394
Hull, Que.....	1,019	1,062	999	906	1,019
Kingston, Ont.....	525	594	576	619	655
Kitchener, Ont.....	689	688	751	812	822
Lachine, Que.....	426	440	464	464	417
Lethbridge, Alta.....	349	348	416	487	581
Lévis, Que.....	290	315	313	310	301
London, Ont.....	1,331	1,286	1,438	1,364	1,485
Moncton, N.B.....	522	499	482	561	522
Montreal, Que.....	19,650	19,458	20,252	20,622	21,044
Moose Jaw, Sask.....	649	626	617	629	593
New Westminster, B.C.....	506	491	535	537	555
Niagara Falls, Ont.....	455	492	445	501	433
North Bay, Ont.....	423	406	435	406	417
Oshawa, Ont.....	512	595	703	727	693
Ottawa, Ont.....	2,869	3,003	3,003	2,924	3,025
Outremont, Que.....	126	135	109	127	127
Owen Sound, Ont.....	317	297	368	376	317
Peterborough, Ont.....	535	545	558	617	639
Port Arthur, Ont.....	493	510	558	582	564
Quebec, Que.....	4,164	4,349	4,473	4,456	4,455
Regina, Sask.....	1,093	1,203	1,363	1,517	1,664
St. Boniface, Man.....	761	752	829	893	984
St. Catharines, Ont.....	592	577	570	570	677
St. Hyacinthe, Que.....	295	317	315	362	377
St. Thomas, Ont.....	334	329	341	306	322
Saint John, N.B.....	1,097	1,166	1,083	1,150	1,222
Sarnia, Ont.....	376	435	426	470	453
Saskatoon, Sask.....	909	962	1,045	1,137	1,233
Sault Ste. Marie, Ont.....	552	578	627	665	644
Shawinigan Falls, Que.....	620	670	703	642	655
Sherbrooke, Que.....	717	809	753	818	833
Stratford, Ont.....	366	372	401	377	404
Sydney, N.S.....	453	501	484	502	611
Toronto, Ont.....	11,185	11,448	12,342	12,485	13,590
Three Rivers, Que.....	1,234	1,327	1,444	1,289	1,355
Vancouver, B.C. ²	3,543	3,651	3,812	3,869	4,090
Verdun, Que.....	906	1,007	1,058	1,095	1,122
Victoria, B.C.....	712	664	723	754	733
Westmount, Que.....	54	38	42	51	36
Windsor, Ont.....	2,122	2,088	1,681	1,654	1,511
Winnipeg, Man.....	4,495	4,506	4,552	4,452	4,625

¹Living births in cities of 40,000 population and over, except Montreal and Quebec, are given for 1926 and subsequent years on p. 137 in the Canada Year Book of 1930.

²Though Point Grey and South Vancouver were not incorporated into Vancouver until Jan. 1, 1929 their statistics are included in the figures for Vancouver for the years 1926-28 for purposes of comparison.

Legitimate Births.—In Table 6 will be found for each of the provinces the percentages of legitimate children born alive to Canadian-born, British-born and foreign-born mothers respectively in 1929. It is noteworthy that children born to foreign born mothers outnumbered children born to Canadian-born mothers in the province of Alberta. For the Dominion as a whole, 72.7 p.c. of the children had Canadian-born mothers, 12.2 p.c. British-born mothers and 15.0 p.c. foreign-born mothers.

It is also significant that the percentage of legitimate children born alive to Canadian-born mothers increased between 1921 and 1929 from 42.3 p.c. to 53.4 p.c. in Manitoba, from 36.1 p.c. to 45.7 p.c. in Saskatchewan, from 30.0 p.c. to 39.5 p.c. in Alberta, and from 29.7 p.c. to 41.3 p.c. in British Columbia. Thus more and more of the children of the West are coming within the class of third generation Canadians.

6.—Percentages of Legitimate Children Born Alive to Canadian-Born, British-Born or Foreign-Born Mothers, by Provinces, 1929.

Province.	Canadian-Born.	British-Born.	Foreign-Born.
Prince Edward Island.....	95.9	1.4	2.8
Nova Scotia.....	85.9	10.3	3.8
New Brunswick.....	92.0	3.2	4.8
Quebec.....	93.2	2.6	4.2
Ontario.....	68.4	20.2	11.5
Manitoba.....	53.4	16.2	30.5
Saskatchewan.....	45.7	13.1	41.2
Alberta.....	39.5	17.6	42.9
British Columbia.....	41.3	32.1	26.6
Canada (Exclusive of the Territories).....	72.7	12.2	15.0

Sex of Living Births.—Table 7 shows the number and proportion of living male and female births reported for each province in Canada during the calendar years 1926 to 1930, with averages for the five-year periods 1921-25 and 1926-30. The figures for Quebec commence only with the year 1926 when that province entered the registration area, and the totals for Canada are limited in the same manner in consequence. Of the figures listed, the only case of an excess of female births is in British Columbia in 1928. The table shows that among every 1,000 born in 1930 in the whole of Canada, 513 were males and 487 females. In other words, there were 1,052 males born to every 1,000 females.

7.—Births (Exclusive of Stillbirths) by Sex, and Ratio of Males to Females, for Canada and by Provinces, 1926-30, with Averages for 1921-25 and 1926-30.

NOTE.—For corresponding figures for 1921-25, see p. 165, Canada Year Book for 1927-28.

Province.	Total.	Males.		Females.		Males to 1,000 Females.	
		Number.	Per cent of Total.	Number.	Per cent of Total.		
Prince Edward Island.....	Av. 1921-25	1,966	993	50.5	973	49.5	1,021
	Av. 1926-30	1,734	898	51.8	836	48.2	1,074
	1926	1,752	887	50.6	865	49.4	1,025
	1927	1,697	890	52.4	807	47.6	1,103
	1928	1,806	947	52.4	859	47.6	1,102
	1929	1,670	856	51.3	814	48.7	1,052
	1930	1,749	912	52.1	837	47.9	1,090
Nova Scotia.....	Av. 1921-25	12,119	6,275	51.8	5,844	48.2	1,074
	Av. 1926-30	11,016	5,653	51.3	5,363	48.7	1,054
	1926	10,980	5,638	51.3	5,342	48.7	1,055
	1927	11,134	5,704	51.2	5,430	48.8	1,050
	1928	10,931	5,533	50.6	5,398	49.4	1,025
	1929	10,688	5,487	51.3	5,201	48.7	1,055
	1930	11,346	5,902	52.0	5,444	48.0	1,084
New Brunswick.....	Av. 1921-25	11,080	5,708	51.5	5,372	48.5	1,063
	Av. 1926-30	10,327	5,292	51.2	5,035	48.8	1,051
	1926	10,340	5,294	51.2	5,046	48.8	1,049
	1927	10,479	5,391	51.4	5,088	48.6	1,060
	1928	10,047	5,152	51.3	4,895	48.7	1,053
	1929	10,235	5,240	51.2	4,995	48.8	1,049
	1930	10,534	5,385	51.1	5,149	48.9	1,046
Quebec ¹	Av. 1926-30	82,771	42,644	51.5	40,127	48.5	1,063
	1926	82,165	42,475	51.7	39,690	48.3	1,070
	1927	83,064	42,813	51.5	40,251	48.5	1,064
	1928	83,621	43,049	51.5	40,572	48.5	1,061
	1929	81,880	41,893	51.5	39,987	48.5	1,061
	1930	83,625	42,992	51.4	40,633	48.6	1,058

¹Quebec not included in present registration area prior to 1926.

7.—Births (Exclusive of Stillbirths) by Sex, and Ratio of Males to Females, for Canada and by Provinces, 1926-30, with Averages for 1921-25 and 1926-30—concluded.

NOTE.—For corresponding figures for 1921-25, see p. 165, Canada Year Book for 1927-28.

Province.	Total.	Males.		Females.		Males to 1,000 Females.
		Number.	Per cent of Total.	Number.	Per cent of Total.	
Ontario.....	Av. 1921-25	71,454	36,725	51.4	34,729	48.6
	Av. 1926-30	68,703	35,268	51.3	33,435	48.7
	1926	67,617	34,742	51.4	32,875	48.6
	1927	67,671	34,755	51.4	32,916	48.6
	1928	68,510	35,299	51.5	33,211	48.5
	1929	68,458	35,154	51.4	33,304	48.6
	1930	71,263	36,392	51.1	34,871	48.9
	Av. 1921-25	16,590	8,443	50.9	8,147	49.1
	Av. 1926-30	14,391	7,399	51.4	6,992	48.6
	1926	14,661	7,598	51.8	7,063	48.2
Manitoba.....	1927	14,147	7,434	52.5	6,713	47.5
	1928	14,504	7,282	50.2	7,222	49.8
	1929	14,236	7,330	51.5	6,906	48.5
	1930	14,411	7,353	51.0	7,058	49.0
	Av. 1921-25	21,580	11,119	51.5	10,461	48.5
	Av. 1926-30	21,298	10,979	51.5	10,319	48.5
	1926	20,716	10,651	51.4	10,065	48.6
	1927	21,015	10,852	51.6	10,163	48.4
	1928	21,261	10,983	51.7	10,278	48.3
	1929	21,446	11,002	51.3	10,444	48.7
Alberta.....	1930	22,051	11,407	51.7	10,644	48.3
	Av. 1921-25	15,461	7,887	51.0	7,574	49.0
	Av. 1926-30	15,924	8,153	51.2	7,771	48.8
	1926	14,456	7,410	51.3	7,046	48.7
	1927	14,897	7,682	51.6	7,215	48.4
	1928	15,692	8,091	51.6	7,601	48.4
	1929	16,924	8,637	51.0	8,287	49.0
	1930	17,649	8,944	50.7	8,705	49.3
	Av. 1921-25	10,256	5,310	51.8	4,946	48.2
	Av. 1926-30	10,356	5,266	50.8	5,090	49.2
British Columbia.....	1926	10,063	5,168	51.4	4,895	48.6
	1927	10,084	5,134	50.9	4,950	49.1
	1928	10,385	5,169	49.8	5,216	50.2
	1929	10,378	5,292	51.0	5,086	49.0
	1930	10,867	5,565	51.2	5,302	48.8
Canada (Exclusive of the Territories).	Av. 1926-30	236,520	121,552	51.4	114,968	48.6
	1926	232,750	119,863	51.5	112,887	48.5
	1927	234,188	120,655	51.5	113,533	48.5
	1928	236,757	121,505	51.3	115,252	48.7
	1929	235,415	120,891	51.4	114,524	48.6
	1930	243,495	124,852	51.3	118,643	48.7

Ages of Parents.—Table 8 shows the age distribution of married fathers and mothers in the years 1927-29. The fathers and mothers in each of these years are arranged according to age and then divided into four equal groups. Each point of age at which a separation comes is called a quartile. To obtain these points of age it is assumed that those in the same year of age are evenly distributed from its lower to its upper limit. In similar manner the deciles divide fathers or mothers in each year into ten equal groups.

In 1929 one-quarter of the married fathers were under 27.98 years of age, one-half under 32.89 years and three-quarters under 38.83 years. One-quarter of the married mothers were under 24.10 years of age, one-half under 28.53 years and three-quarters under 33.81 years. Nine-tenths of the fathers were under 44.11 years and nine-tenths of the mothers under 38.54 years. It will be noted that the general tendency of the quartile and decile points over the three years, while not very marked, is in a downward direction. The movement is clear for the lower age-points and more doubtful for the higher.

8.—Quartile and Decile Ages of Married Fathers and Mothers, 1927.

Position in Array by Age.	Fathers.			Mothers.		
	1927.	1928.	1929.	1927.	1928.	1929.
First quartile..... years of age.	28-24	28-15	27-98	24-35	24-25	24-10
Second quartile..... "	33-26	33-13	32-89	28-85	28-71	28-53
Third quartile..... "	39-04	38-98	38-83	34-26	34-16	33-81
First decile..... "	24-81	24-72	24-60	21-39	21-30	21-21
Second decile..... "	27-24	27-12	26-93	23-44	23-35	23-20
Third decile..... "	29-25	29-04	28-93	25-25	25-12	24-20
Fourth decile..... "	31-21	31-02	30-77	27-06	26-92	26-68
Fifth decile..... "	33-26	33-13	32-89	28-85	28-71	28-53
Sixth decile..... "	35-44	35-31	35-06	30-78	30-69	30-44
Seventh decile..... "	37-83	37-78	37-52	33-03	32-94	32-71
Eight decile..... "	40-43	40-38	40-25	35-61	35-51	35-30
Ninth decile..... "	44-20	44-21	44-11	38-69	38-65	38-54

Nativity of Parents.—Table 9 classifies the children born in 1929 by country of birth of parents, and furnishes some idea to what extent the coming generation of Canadian-born will be the offspring of Canadian-born, British-born or foreign-born parents. The term "country not specified", under country of birth, includes for the father illegitimate births and births of incomplete record, while for the mother it includes births of incomplete record only.

9.—Number and Percentage of Births (Exclusive of Stillbirths) in Canada to Fathers and Mothers Born in Specified Countries, 1929.

Country of Birth of Parents.	Number of Births with Father, Mother or Both Parents Born in Specified Country.			Percentage of Births with Father, Mother or Both Parents Born in Specified Country.		
	Father.	Mother.	Both Parents.	Father.	Mother.	Both Parents.
Canada	159,450	170,442	143,626	67.7	72.4	61.0
England.....	17,154	16,964	8,075	7.3	7.2	3.4
Ireland.....	2,825	2,473	1,090	1.2	1.1	0.5
Scotland.....	6,660	7,092	3,075	2.8	3.0	1.3
Wales.....	613	545	157	0.3	0.2	0.1
Other British Isles.....	86	75	19	^s	^s	^s
Newfoundland.....	1,074	1,032	509	0.5	0.4	0.2
Other British Possessions.....	524	460	143	0.2	0.2	0.1
Austria.....	3,311	2,634	2,065	1.4	1.1	0.9
Belgium.....	604	510	343	0.3	0.2	0.1
Finland.....	573	623	467	0.2	0.3	0.2
France.....	485	410	166	0.2	0.2	0.1
Germany.....	960	870	430	0.4	0.4	0.2
Hungary.....	947	842	733	0.4	0.4	0.3
Italy.....	2,447	1,751	1,671	1.0	0.7	0.7
Norway.....	962	686	431	0.4	0.3	0.2
Poland ¹	5,079	4,635	3,736	2.2	2.0	1.6
Russia ²	5,627	4,760	3,642	2.4	2.0	1.5
Sweden.....	923	608	348	0.4	0.3	0.1
Other European Countries.....	4,024	3,073	2,341	1.7	1.3	1.0
China and Japan.....	1,143	1,065	1,020	0.5	0.5	0.4
Other Asiatic Countries.....	314	243	214	0.1	0.1	0.1
United States.....	11,613	12,022	3,639	4.9	5.1	1.5
Country not specified.....	8,017	1,600	290	3.4	0.7	0.1
Totals	235,415	235,415	178,230 ⁴	100.00	100.0	75.7 ⁵

¹ Includes Galicia. ² Includes the Ukraine. ³ Less than one-tenth of one per cent. ⁴ This figure gives the number of children whose fathers and mothers were born in the same country. The difference between this figure (178,230) and the total number of births (235,415) represents the number of children (57,185) whose fathers and mothers were born in different countries. ⁵ This excludes the percentage (24.3) of "mixed parentage", i.e., where the two parents were not born in the same country.

Origin of Parents.—Table 10 gives the number and percentage of births during 1929, distributed by the principal origins.

10.—Number and Percentage of Births (Exclusive of Stillbirths) in Canada to Fathers and Mothers of Specified Origins, 1929.

Origin of Parents.	Number of Births with Father, Mother or Both Parents of Specified Origin.			Percentage of Births with Father, Mother, or Both Parents of Specified Origin.		
	Father.	Mother.	Both Parents.	Father.	Mother.	Both Parents.
English.....	51,107	54,069	36,197	21.7	23.0	15.4
Irish.....	20,968	20,091	9,138	8.9	8.5	3.9
Scotch.....	22,530	22,773	10,256	9.6	9.7	4.4
Welsh.....	907	733	162	0.4	0.3	0.1
French.....	88,405	91,810	83,927	37.6	39.0	35.7
German.....	10,430	11,135	7,535	4.4	4.7	3.2
Armenian.....	48	43	42	1	1	1
Austrian.....	1,258	1,366	997	0.5	0.6	0.4
Belgian.....	651	623	384	0.3	0.3	0.2
Bulgarian.....	66	29	26	1	1	1
Chinese.....	286	263	257	0.1	0.1	0.1
Czech and Slovak.....	520	539	401	0.2	0.2	0.2
Danish.....	699	616	319	0.3	0.3	0.1
Dutch.....	2,320	2,209	1,235	1.0	0.9	0.5
Finnish.....	643	803	572	0.3	0.3	0.2
Greek.....	267	162	156	0.1	0.1	0.1
Hebrew.....	2,181	2,148	2,101	0.9	0.9	0.9
Hindu.....	39	39	36	1	1	1
Hungarian.....	911	963	827	0.4	0.4	0.4
Icelandic.....	388	443	259	0.2	0.2	0.1
Indian.....	2,557	2,980	2,421	1.1	1.3	1.0
Italian.....	2,717	2,288	2,111	1.2	1.0	0.9
Japanese.....	886	886	881	0.4	0.4	0.4
Negro.....	325	376	294	0.1	0.2	0.1
Norwegian.....	1,895	1,951	953	0.8	0.8	0.4
Polish.....	2,676	2,980	2,081	1.1	1.3	0.9
Romanian.....	662	590	458	0.3	0.3	0.2
Russian.....	2,242	2,070	1,668	1.0	0.9	0.7
Serbo-Croatian.....	337	325	277	0.1	0.1	0.1
Swedish.....	1,522	1,450	626	0.6	0.6	0.3
Swiss.....	300	252	98	0.1	0.1	1
Syrian.....	278	244	213	0.1	0.1	0.1
Ukrainian ¹	5,046	5,966	5,111	2.4	2.5	2.2
Other.....	265	257	163	0.1	0.1	0.1
Origin not specified.....	8,483	1,943	691	3.6	0.8	0.3
Totals.....	235,415	235,415	172,873²	100.0	100.0	73.4

¹Less than one-tenth of one per cent. ²This figure gives the number of children whose fathers and mothers have the same origin. The difference between this figure (172,873) and the total number of births (235,415) represents the number of children (62,542) whose fathers and mothers are of different origins.

³This excludes the percentage (26.6) of mixed parentage, i.e., where the parents were not of the same origin.

⁴Including Galician and Bukovinian.

Illegitimacy.—The ratio of illegitimate to total births is, generally speaking, low in Canada as compared with other countries.

Out of 235,415 living births in the nine provinces of Canada in 1929, 7,516, or 3 p.c., were returned as the issue of unmarried mothers. Figures for 1930 show total of 243,495 living births, of which 8,059, or 3.3 p.c., were returned as the issue of unmarried mothers. Out of this number 4,125 were males and 3,934 females—a ratio of 1,049 males to every 1,000 females, as compared with 1,033 males per 1,000 females, for 1929, and a general 1930 rate for all births of 1,053 males to 1,000 females. The somewhat lower 1930 ratio of males to females among the issue of unmarried mothers, as compared with the issue of married mothers, is in contrast with the experience of most other countries, and even with our own records of earlier years.

11.—Number of Illegitimate Births, Classified by Age of Mother, with the Percentage to Total Living Births, by Provinces, 1929, with Totals for 1930.

Age of Mother.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Under 15 years.....	—	8	2	12	30	2	4	4	2	64
15-19 years.....	13	228	142	462	902	197	225	194	97	2,460
20-24 years.....	13	206	109	538	845	201	197	203	107	2,419
25-29 years.....	4	65	38	155	295	60	55	76	31	779
30-34 years.....	3	21	15	50	148	25	29	33	20	344
35-39 years.....	1	20	5	29	65	27	12	15	15	189
40-44 years.....	1	4	8	3	28	3	14	9	1	71
45-49 years.....	—	1	—	—	2	—	—	—	—	3
50 years and over.....	—	—	—	—	—	—	—	—	—	—
Not given.....	5	—	1	1,110	61	3	4	3	—	1,187
Totals—										
1929.....	40	553	320	2,359	2,376	518	540	537	273	7,516
1930.....	41	557	312	2,519	2,651	540	619	557	263	8,059
Per cent of all living births—										
1929.....	2.4	5.2	3.1	2.9	3.5	3.6	2.5	3.2	2.6	3.2
1930.....	2.3	4.9	3.0	3.0	3.7	3.7	2.8	3.2	2.4	3.3
Male illegitimate births—										
1929.....	23	279	156	1,215	1,207	272	276	258	136	3,822
1930.....	21	302	159	1,291	1,335	274	333	281	129	4,125
Female illegitimate births—										
1929.....	17	274	164	1,144	1,169	246	264	279	137	3,694
1930.....	20	255	153	1,228	1,316	266	286	276	134	3,934

Stillbirths.—Statistics of the number of children born dead in 1929 are shown below for Canada, according to the status and age of the mother; totals for 1930 are inserted.

12.—Stillbirths by Age of Mother and Legitimacy of Child in 1929, with Totals for 1930.

Age of Mother.	Born to Unmarried Mothers.	Born to Married Mothers.									Total Born in Canada.
		P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	
Under 15 years of age.....	3	—	1	—	—	—	—	—	—	—	4
15-19 years.....	97	1	21	16	66	141	13	27	23	19	424
20-24 years.....	109	8	77	64	434	526	86	105	106	58	1,573
25-29 years.....	49	13	62	67	579	580	112	120	107	61	1,750
30-34 years.....	21	9	85	42	446	580	92	88	91	58	1,512
35-39 years.....	21	9	61	46	400	434	115	109	79	55	1,329
40-44 years.....	7	6	31	28	206	232	60	69	45	28	712
45 and over.....	—	—	2	2	28	28	6	13	4	2	85
Unknown.....	93	2	—	3	2	68	—	2	5	2	177
Totals, 1929.....	400	48	340	268	2,161	2,589	484	533	460	283	7,566
Totals, 1930.....	433	39	350	322	2,265	2,557	451	529	503	258	7,707
Ratios to Total Births, 1929	5.1	2.9	3.2	2.6	2.7	3.8	3.4	2.5	2.7	2.7	3.1
Ratios to Total Births, 1930	5.1	2.2	3.1	3.1	2.7	3.6	3.1	2.4	2.9	2.4	3.2

Birth Rates in Various Countries.—The relative positions occupied by Canada and its individual provinces among the countries of the world with respect to crude birth rate (the annual number of births per 1,000 of population) are shown in Table 13.

13.—Crude Birth Rates of Various Countries in Recent Years.

Country or Province.	Year.	Crude Birth Rate.	Country or Province.	Year.	Crude Birth Rate.
Costa Rica.....	1928	46.9	New South Wales.....	1929	21.4
Egypt.....	1929	43.7	Ontario.....	1930	21.0
Chile.....	1929	41.2	Manitoba.....	1930	20.9
Russia (European).....	1928	41.0	Northern Ireland.....	1929	20.4
Ceylon.....	1929	36.5	Australia.....	1929	21.3
Salvador.....	1926	36.1	Queensland.....	1929	20.0
Panama.....	1928	35.9	Prince Edward Island.....	1930	19.8
Roumania.....	1928	34.7	Irish Free State.....	1929	18.8
Jamaica.....	1929	34.2	New Zealand.....	1929	19.6
Japan.....	1929	33.0	Scotland.....	1929	18.4
Quebec.....	1930	29.6	Victoria.....	1929	19.0
Spain.....	1929	28.9	United States (Reg. Area).....	1928	18.0
Union of South Africa (Whites).....	1929	26.2	Latvia.....	1929	18.8
New Brunswick.....	1930	25.9	Denmark.....	1929	18.0
Italy.....	1929	25.1	Prussia.....	1928	18.2
Alberta.....	1930	24.9	South Australia.....	1929	18.4
Newfoundland.....	1929	24.6	Belgium.....	1929	18.1
Saskatchewan.....	1930	24.4	Estonia.....	1928	18.0
Uruguay.....	1929	24.2	Germany.....	1929	17.9
Canada.....	1930	23.9	France.....	1929	17.7
Netherlands.....	1929	22.8	Norway.....	1929	17.1
Czechoslovakia.....	1929	22.4	Switzerland.....	1929	17.4
Tasmania.....	1929	22.4	Austria.....	1929	16.7
Nova Scotia.....	1930	22.1	England and Wales.....	1929	16.3
Western Australia.....	1929	22.0	British Columbia.....	1930	16.3
Finland.....	1928	21.6	Sweden.....	1929	15.2

Section 3.—Marriages and Divorces.

Subsection 1.—Marriages.

About a century ago it was observed in the United Kingdom that the number of marriages tended to be high when the price of wheat was low and to be low when the price of wheat was high. This was quite naturally the case among a population the majority of which was living at a comparatively low standard of comfort, and where the staple food was thus the chief factor in the cost of living.

More recently, the curve showing marriage rates in the United Kingdom and other English-speaking countries has ceased to bear any constant relation to the price of the staple food of the people, though it still does so in poorer countries. Its place in influencing the marriage rate has, however, been taken by the general level of prosperity. Marriages in such countries as the United Kingdom, the United States, Canada and Australia tend to increase in "good times" and to diminish in "hard times", when great numbers of those who are contemplating marriage are led to postpone such marriage until the advent of better industrial conditions. Thus marriage in Canada showed a considerable decline in 1930.

Summary statistics of marriages contracted in 1921-30 appear in Table 14.

14.—Number of Marriages and Marriage Rates, by Provinces, 1921-30.

A.—NUMBER OF MARRIAGES.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Average 1921-25..	473	3,186	2,953	1	24,037	4,634	4,982	4,313	3,971	1
Average 1926-30..	473	3,224	2,970	18,731	25,449	4,951	6,036	5,265	4,786	71,885
1926.....	459	2,861	2,938	17,827	23,632	4,537	5,483	4,503	4,418	66,658
1927.....	482	3,042	2,887	18,551	24,677	4,716	5,733	4,707	4,720	69,515
1928.....	466	3,256	3,146	19,126	25,728	5,170	6,701	5,776	4,942	74,311
1929.....	469	3,510	3,118	19,610	27,605	5,269	6,548	6,004	5,155	77,288
1930.....	488	3,451	2,761	18,543	25,605	5,061	5,717	5,334	4,697	71,657

B.—MARRIAGE RATES PER 1,000 POPULATION.

	5.4	6.1	7.6	1	8.0	7.5	6.4	7.3	7.1	1
Average 1921-25..	5.4	6.3	7.4	6.9	7.8	7.5	7.0	8.0	7.5	7.3
Average 1926-30..	5.3	5.6	7.4	6.8	7.5	7.1	6.7	7.4	7.3	7.1
1926.....	5.5	5.9	7.3	7.0	7.7	7.2	6.8	7.4	7.6	7.2
1927.....	5.3	6.3	7.8	7.0	7.8	7.8	7.8	8.8	7.7	7.6
1928.....	5.3	6.8	7.7	9.1	8.3	7.8	7.4	8.8	7.8	7.7
1929.....	5.5	6.7	6.8	6.6	7.6	7.3	6.3	7.5	6.9	7.0

¹Quebec not included in present registration area prior to 1926.

Age at Marriage.—The average age of all bridegrooms in the Dominion in 1929 was 29.1 years and that of all brides 24.9 years. The average excess of the bridegroom's age was thus 4.2 years. It may be noted in Table 15 that when the contracting parties are grouped by age of bridegroom, the average difference in age is less for the younger groups, grooms under 20 being 0.4 years younger than the brides, while the excess of the average bridegroom's age was 1.6 years in the group 20-24, and steadily increased for each quinquennial age group until it was 11.4 years for the bridegrooms 50 years and over. On the other hand, when the parties are grouped by the age of the bride, it is found that, although with less regularity than is shown in the table by age of grooms, the general tendency is for the older brides to marry men nearer their own age than in the case of the younger brides. Since these tables are based upon all marriages contracted during the year, the figures given should not be understood to signify the average ages at first marriage. Out of each 1,000 bridegrooms in 1929, 906 were bachelors, 84 widowers, 10 divorced men; out of each 1,000 brides 933 were spinsters, 58 widows, 9 divorced women. Nineteen twenty-eight is the first year in which as many as 1 p.c. of those marrying have previously been divorced.

15.—Difference in Ages of Bridegrooms and Brides, 1929.

Age Group of Bridegrooms.	Average Age of Bridegrooms.	Average Age of Brides.	Excess of Average Age of Bridegrooms	Age Group of Brides.	Average Age of Brides.	Average Age of Bridegrooms.	Excess of Average Age of Bridegrooms
All bridegrooms...	29.1	24.9	4.2	All brides.....	24.9	29.1	4.2
Under 20 years.....	19.1	19.5	-0.4	Under 20 years.....	18.5	24.6	6.1
20-24 years.....	22.8	21.2	1.6	20-24 years.....	22.3	26.4	4.1
25-29 years.....	27.3	23.4	3.9	25-29 years.....	27.1	30.1	3.0
30-34 years.....	32.2	25.9	6.3	30-34 years.....	32.1	35.4	3.3
35-39 years.....	37.3	28.9	8.4	35-39 years.....	37.3	40.8	3.5
40-44 years.....	42.2	32.8	9.4	40-44 years.....	42.3	46.3	4.0
45-49 years.....	47.4	37.3	10.1	45-49 years.....	47.3	51.1	3.8
50 years and over..	59.5	48.1	11.4	50 years and over..	58.5	61.1	2.6

16—Average Ages of Parties Contracting Marriages, 1929.

Province.	Average Age of Bride-grooms.	Average Age of Brides.	Excess of Average Age of Bride-grooms.
Prince Edward Island.....	30.9	26.0	4.9
Nova Scotia.....	29.3	24.9	4.4
New Brunswick.....	29.0	24.3	4.7
Quebec.....	28.7	25.2	3.5
Ontario.....	28.8	25.0	3.8
Manitoba.....	29.7	24.7	5.0
Saskatchewan.....	29.4	23.9	5.5
Alberta.....	29.5	24.2	5.3
British Columbia.....	31.2	26.2	5.0
Canada.....	29.1	24.9	4.2

Nativity of Brides and Bridegrooms.—The majority of marriages contracted in the western provinces in past years have been between persons born outside Canada. This condition however is being gradually changed and, although in Alberta and British Columbia, the majority of the bridegrooms and brides in the marriages contracted in 1929 were born outside of Canada the percentages show a general reduction; in Saskatchewan the majority of the bridegrooms were born outside Canada but the majority of the brides were Canadians, and in Manitoba the majority of both bridegrooms and brides were Canadians. In the three Maritime Provinces, the Canadian-born brides and grooms showed a marked predominance, varying between 82 p.c. and 97 p.c., and in Ontario over 62 p.c. of grooms and 68 p.c. of brides were Canadian-born. In 1929, taking Canada as a whole, 64.1 p.c. of all grooms and 70.0 p.c. of all brides were born in Canada. Table 17 gives the number of marriages per 1,000 population in each province, as well as the percentage distribution of brides and grooms according to nativity.

17.—Nativity of Persons Married in the Registration Area, by Provinces, 1924-29.

NOTE.—For figures for 1921-1923, see the 1929 Year Book, p. 166.

Province.	Year.	Marriages.		Percentage Distribution of Grooms and Brides, by Nativity.					
		Total.	Per 1,000 Population.	Born in Provinces of Residence.		Born in other Provinces.		Born Elsewhere.	
				Grooms	Brides.	Grooms	Brides.	Grooms	Brides.
Prince Edward Island.....	1924	408	4.7	88.7	93.1	7.4	3.7	3.9	3.2
	1925	407	4.7	90.9	93.4	4.9	2.2	4.1	4.4
	1926	459	5.3	88.9	94.3	5.5	2.2	5.7	3.5
	1927	482	5.5	92.7	95.0	3.5	1.5	3.7	3.5
	1928	466	5.3	91.0	94.2	3.6	2.6	5.4	3.2
	1929	469	5.3	91.3	92.5	3.8	4.3	4.9	3.2
Nova Scotia.....	1924	2,999	5.8	78.8	82.9	5.0	3.0	16.2	14.1
	1925	2,964	5.8	78.9	84.1	5.6	3.2	15.5	12.7
	1926	2,861	5.6	79.0	85.3	4.9	3.1	16.2	11.6
	1927	3,042	5.9	79.5	84.5	4.6	3.7	15.9	11.8
	1928	3,256	6.3	79.0	83.9	4.6	3.0	16.4	13.1
	1929	3,510	6.8	77.9	83.6	5.2	3.7	16.9	12.7

17.—Nativity of Persons Married in the Registration Area, by Provinces,
1924-29—concluded.

Province.	Year.	Marriages.		Percentage Distribution of Grooms and Brides, by Nativity.					
		Total.	Per 1,000 Popu- lation.	Born in Provinces of Residence.		Born in other Provinces.		Born Elsewhere.	
				Grooms	Brides.	Grooms	Brides.	Grooms	Brides.
New Brunswick.....	1924	2,972	7.6	73.2	77.2	10.0	7.9	16.8	14.9
	1925	2,908	7.4	72.2	76.5	9.3	7.0	18.5	16.5
	1926	2,938	7.4	72.1	75.6	9.0	8.0	18.9	16.4
	1927	2,887	7.3	72.3	75.5	8.5	8.2	19.3	16.2
	1928	3,146	7.8	69.4	74.8	9.2	7.3	21.4	17.9
	1929	3,118	7.7	72.8	76.2	9.3	8.9	17.9	14.9
Ontario.....	1924	24,038	7.9	58.8	62.3	6.8	6.1	34.4	31.6
	1925	23,074	7.4	58.9	62.6	7.5	6.8	33.6	30.7
	1926	23,632	7.5	60.4	64.3	7.3	6.6	32.3	29.1
	1927	24,677	7.7	59.6	63.5	6.9	6.2	33.4	30.3
	1928	25,728	7.8	57.0	61.3	7.2	6.7	35.8	32.0
	1929	27,605	8.3	54.9	60.2	7.4	7.3	37.7	32.5
Manitoba.....	1924	4,132	6.6	28.4	43.1	17.0	13.4	54.6	43.5
	1925	4,377	6.9	32.4	44.7	15.6	11.3	51.9	44.0
	1926	4,537	7.1	35.4	47.7	14.2	12.2	50.3	40.2
	1927	4,716	7.2	34.7	48.7	13.6	10.8	51.8	40.6
	1928	5,170	7.8	34.8	48.0	13.0	10.5	52.2	41.5
	1929	5,269	7.8	37.7	50.6	12.6	10.9	49.7	38.5
Saskatchewan.....	1924	4,792	6.1	11.2	24.6	30.2	25.6	58.6	49.8
	1925	4,909	6.1	13.2	26.6	29.0	24.8	57.8	48.6
	1926	5,483	6.7	15.1	31.0	28.8	24.6	56.1	44.4
	1927	5,733	6.8	17.0	32.5	27.6	23.3	55.4	44.2
	1928	6,701	7.8	17.8	34.8	26.4	20.1	55.8	45.1
	1929	6,548	7.4	20.6	38.5	24.9	19.4	54.5	42.1
Alberta.....	1924	4,159	7.0	11.6	22.5	25.0	22.4	63.4	55.1
	1925	4,355	7.2	13.6	25.1	24.0	20.5	62.5	54.4
	1926	4,503	7.4	13.3	25.7	24.1	21.7	62.5	52.6
	1927	4,707	7.4	15.2	25.4	23.3	20.9	61.4	53.7
	1928	5,776	8.8	16.6	28.3	22.4	18.7	61.0	53.0
	1929	6,004	8.8	17.6	30.9	20.9	17.2	61.4	51.9
British Columbia.....	1924	4,038	7.1	16.2	23.3	21.3	19.8	62.5	56.9
	1925	4,223	7.2	17.1	22.1	20.7	20.4	62.2	57.4
	1926	4,418	7.3	17.7	22.5	21.0	20.8	61.2	56.7
	1927	4,720	7.6	16.9	22.7	20.3	21.9	62.8	55.5
	1928	4,942	7.7	18.3	25.8	21.5	21.7	60.2	52.5
	1929	5,155	7.8	18.6	26.5	20.6	21.6	60.8	51.9
Canada (Former Regis- tration Area).	1924	47,538	7.2	46.0	52.5	12.9	11.2	41.1	36.3
	1925	47,217	7.0	46.1	52.6	13.2	11.3	40.7	36.1
	1926	48,831	7.1	46.8	53.9	13.1	11.7	40.1	34.5
	1927	50,964	7.3	46.7	53.6	12.5	11.2	40.8	35.2
	1928	55,185	7.8	44.8	52.6	12.9	11.1	42.3	36.3
	1929	57,678	8.0	44.9	53.3	12.4	11.1	42.7	35.6
Quebec.....	1926	17,827	6.8	81.9	84.4	3.9	3.4	14.1	12.2
	1927	18,551	7.0	81.1	84.3	4.2	3.3	14.7	12.4
	1928	19,126	7.0	80.8	83.8	4.1	3.5	15.1	12.7
	1929	19,610	7.1	80.1	82.6	3.7	3.4	16.3	14.0
Canada (Exclusive of the Territories).....	1926	66,658	7.1	56.2	62.0	10.7	9.5	33.2	28.5
	1927	69,515	7.2	55.9	61.8	10.3	9.1	33.8	29.1
	1928	74,311	7.6	54.1	60.6	10.6	9.1	35.3	30.3
	1929	77,288	7.7	53.9	60.8	10.2	9.2	36.0	30.0

Marriage Rates in Various Countries.—For comparative purposes, the crude marriage rates per 1,000 of population in various countries of the world and in the provinces of Canada are shown for the indicated years in Table 18.

18.—Crude Marriage Rates of Various Countries in Recent Years.

Country or Province.	Year.	Crude Marriage Rate per 1,000 population.	Country or Province.	Year.	Crude Marriage Rate per 1,000 population.
Ukraine.....	1927	11.2	Australia.....	1929	7.2
United States.....	1928	9.9	Spain.....	1929	7.2
Chile.....	1929	9.8	Manitoba.....	1930	7.2
Union of South Africa.....	1929	9.7	Victoria.....	1929	7.2
Czechoslovakia.....	1929	9.5	Finland.....	1928	7.2
Germany.....	1929	9.2	Iceland.....	1929	7.2
Hungary.....	1929	9.1	Canada.....	1930	7.2
Belgium.....	1929	8.9	Italy.....	1929	7.2
Roumania.....	1928	8.9	British Columbia.....	1930	6.5
Western Australia.....	1929	8.2	New Brunswick.....	1930	6.5
France.....	1929	8.1	Scotland.....	1929	6.5
Latvia.....	1929	8.0	Sweden.....	1929	6.5
Tasmania.....	1929	8.0	Nova Scotia.....	1930	6.5
Austria.....	1929	7.9	Queensland.....	1929	6.5
Denmark.....	1929	7.9	Quebec.....	1930	6.5
England.....	1929	7.9	Norway.....	1929	6.5
Estonia.....	1928	7.9	South Australia.....	1929	6.5
Japan.....	1929	7.9	Uruguay.....	1929	6.5
New South Wales.....	1929	7.9	Saskatchewan.....	1930	6.5
New Zealand.....	1929	7.8	Northern Ireland.....	1929	6.5
Netherlands.....	1929	7.7	Ceylon.....	1929	6.5
Switzerland.....	1929	7.7	Prince Edward Island.....	1930	6.5
Ontario.....	1930	7.6	Irish Free State.....	1929	6.5
Alberta.....	1930	7.5	Salvador.....	1926	3.4

Subsection 2.—Divorces.

For many years subsequent to Confederation the number of divorces granted in Canada was very small, 1883, with 13 divorces, being the first year in which the number attained two figures, while 1903, with 21 divorces, was the record year up to that time. Thereafter the numbers grew more rapidly, 1909 showing 51 divorces and 1913, the last pre-war year, 60 divorces. This number was, however, less than one per 1,000 of the marriages contracted in Canada in these years.

The effect of the war was to increase very greatly the number of divorces granted in Canada. The causes may be found in the generally unsettling psychological effect of the war period, and the long separations between men on active service and their wives. The provision of new facilities for divorce is also to be considered owing to a decision of the British Privy Council, divorces in the Prairie Provinces have, subsequently to 1918, been granted by the courts of these provinces, so that Ontario and Quebec have since then been the only provinces in which the applicant for divorce must secure a special Private Act of Parliament. In 1930, however, an Act of the Dominion Parliament (20-21 Geo. V, c. 14) gave jurisdiction in divorce cases to the Supreme Court of Ontario.

The above-mentioned causes have tended to produce the recent increase in the numbers of divorces granted in Canada, which have grown steadily from 114 in 1913 to 785 in 1928, 816 in 1929, and 875 in 1930, these numbers being those of final decrees, which alone really constitute divorces. More divorces were granted in 1931 alone than in the 46 years from 1868 to 1913. The statistics of divorces granted in the years from 1901 to 1930 inclusive will be found in Table 19. (For divorces in each year prior to 1901 see the 1921 Year Book, p. 825.)

19.—Statistics of Divorces Granted in Canada, 1901-31.

NOTE.—In Prince Edward Island only one divorce was granted from 1868 to 1930; this was in 1913. In consequence of a decision of the British Privy Council, divorces in Manitoba, Saskatchewan and Alberta have, subsequently to 1918, been granted by the courts of these provinces.

Year.	Granted by the Dominion Parliament.				Granted by the Courts.			Total for Canada.
	Ontario.	Quebec.	Northwest Territories.	Manitoba.	Nova Scotia.	New Brunswick.	British Columbia.	
1901.....	2	—	—	—	10	—	7	19
1902.....	2	—	—	—	9	1	3	15
1903.....	2	1	1	1	8	4	4	21
1904.....	5	1	—	—	6	2	5	19
1905.....	2	3	2	2	6	2	18	35
			Alta. Sask.					
1906.....	10	3	1	—	5	1	17	37
1907.....	3	1	—	—	8 ¹	3	9	25
1908.....	8	—	—	—	5	5	12	30
1909.....	8	4	1	1	8 ¹	5	22	51
1910.....	14	2	—	1	13 ¹	6	12	51
1911.....	13	4	2	—	10 ¹	6	19	57
1912.....	9	3	2	1	4	4 ²	11	35
1913.....	20	4	4	1	—	4	20	60 ^a
1914.....	18	7	4	2	10	12	15	70
1915.....	10	3	3	1	13	6	16	53
1916.....	18	1	1	2	14	11	18	67
1917.....	10	4	2	1	8	6	23	54
1918.....	10	2	2	1	24	10	65	114
1919.....	49	4	36 ³	3	36	13	147	376
1920.....	91	9	64 ⁴	28 ⁴	42 ⁴	15	136	429
1921.....	101	9	84 ⁴	50 ⁴	122 ⁴	41	138	548
1922.....	90	6	129 ⁴	37 ⁴	97 ⁴	35	12	338
1923.....	105	11	87 ⁴	41 ⁴	81 ⁴	22	19	139 ³
1924.....	114	13	118 ⁴	28 ⁴	77 ⁴	42	15	136 ³
1925.....	121	13	101 ⁴	42 ⁴	79 ⁴	30	15	150
1926.....	113	10	154 ⁴	48 ³	85 ⁴	19	12	167
1927.....	182	13	148 ⁴	60 ⁴	102 ³	29	17	197
1928.....	213	25	168 ⁴	55 ⁴	79 ⁴	28	14 ³	203
1929.....	208	30	147 ⁴	69 ⁴	89 ⁴	30	21	222
1930.....	207	40	151 ⁴	62 ⁴	114 ⁴	19	27	255
1931.....	—	38	154 ⁴	51 ⁴	94 ⁴	36	20	208

¹ Includes one judicial separation. ² Includes one not effective till court costs are paid. ³ One by Parliament. ⁴ Granted by courts. ⁵ Two granted by Parliament. ⁶ Includes one in P.E. Island.

Section 4.—Deaths.

Within the past century and more especially within the past generation there has occurred throughout the countries of the white world a notable decline in the death rate, except where man has brought death upon himself through wars and the aftermath of wars. How far this decline has been due to advances in medical science, how far to better sanitation and how far to the improvement in the general conditions of living, as a result of the increase in the productive power of humanity, is in dispute, but concerning the facts there is no doubt.

Perhaps the most impressive testimony regarding this decline in the death rate is furnished by the mortality statistics of Sweden, where vital statistics have been kept with great accuracy for the whole nation ever since 1750. There the crude death rate declined from an average of 27.40 per 1,000 in the decade 1751-60 to 14.29 in the decade 1911-20 and to 12.2 in 1929.

Similarly, in England, the crude death rate, which was 22.5 per 1,000 in the '60's, 21.4 in the '70's and 18.2 in the '90's of the last century, declined to 15.5 in 1906, 13.8 in 1913 and 12.3 and 11.7 (England and Wales) in 1927 and 1928. In Scotland, again, the rate was 22.1 in the '60's, 21.8 in the '70's, 18.6 in the '90's, 16.4 in 1906, 13.5 in 1927 and 13.3 in 1928.

Of course the preceding statements are not to be taken to mean that every year will show a decline in the death rate as compared with the preceding year. There will always be years of specially high mortality, for instance 1918, when the death rate in Ontario, the most populous of the provinces of Canada, was 15.3 per 1,000 as against 12.0 in 1917 and 11.9 in 1919. (This was owing to the great influenza-pneumonia epidemic of that year.) Over a period, however, these idiosyncrasies of individual years are reduced to negligibility, and it remains true that from decade to decade there is, generally speaking and under normal conditions, a decline in the crude death rate of the countries of the white man's world.

As for Canada, while the period elapsed since the introduction of complete and comprehensive vital statistics in 1920 has been too short to establish a definite downward trend, the rate of 12.4 per 1,000 for that year in the eight provinces then included in the registration area was substantially higher than in any subsequent year. When the year 1920 is eliminated from the series there is little evidence of continued trend. Since 1925 Quebec, which has a higher death rate than any other province, has been included in the registration area and its influence is reflected in the totals for Canada shown in Table 20. A decided improvement is shown in the deaths and death rate of Quebec for 1930.

Subsection 1.—General Mortality.

Total deaths and crude death rates in recent years are given in Table 20 for Canada, by provinces.

20.—Deaths and Death Rates, by Provinces, 1926-30, with Averages 1921-25 and 1926-30.

A.—TOTAL DEATHS.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada. ²
Average 1921-25.....	1,085	6,519	5,093	¹	34,252	5,348	5,859	4,953	4,812	¹
Average 1926-30.....	969	6,362	5,019	36,645	36,650	5,507	6,256	5,530	5,986	108,924
1926.....	898	6,366	5,002	37,251	35,909	5,335	6,060	5,159	5,474	107,455
1927.....	913	6,378	4,902	36,175	34,775	5,309	6,031	5,059	5,750	105,297
1928.....	952	6,202	4,972	36,632	37,128	5,396	6,166	5,699	5,910	109,057
1929.....	1,122	6,660	5,230	37,221	38,123	5,808	6,715	6,239	6,397	113,511
1930.....	961	6,206	4,991	35,945	37,313	5,685	6,309	5,496	6,400	109,306

B.—CRUDE DEATH RATES PER 1,000 POPULATION.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada. ²
Average 1921-25.....	12.5	12.6	13.1	¹	11.3	8.6	7.5	8.3	8.7	¹
Average 1926-30.....	11.0	12.4	12.5	13.5	11.2	8.3	7.3	8.4	9.3	11.1
1926.....	10.3	12.4	12.6	14.3	11.3	8.3	7.4	8.5	9.0	11.1
1927.....	10.5	12.4	12.3	13.6	10.8	8.2	7.2	8.0	9.2	10.9
1928.....	10.8	12.0	12.4	13.5	11.3	8.1	7.2	8.7	9.2	11.1
1929.....	12.8	12.9	12.9	13.4	11.4	8.6	7.6	9.1	9.7	11.1
1930.....	10.9	12.1	12.3	12.7	11.0	8.3	7.0	7.8	9.5	10.9

¹Quebec not included in present registration area prior to 1926.

²Exclusive of the Territories.

Age Distribution of Decedents.—The numbers of males and females dying in the nine provinces in 1929 and 1930 are given by single years of age up to 5 and afterwards by quinquennial age groups up to 90 years of age in Table 21, together with the percentage of the deaths which occurred in each group in each of these years. As illustrating the recent decline in infant mortality, it may be pointed out that the number of males under 1 year dying in 1930, was only 16.4 p.c. of the total number of male deaths, as against 23.6 p.c. in 1921, and of females, 15.4 p.c. as against 20.2 p.c. Similarly, deaths under 5 years of age among males fell from 29.8 p.c. of the total number of deaths in 1921 to 20.7 in 1930 and among females, from 26.5 p.c. to 19.7 p.c., the figures being for the registration area as of 1921 in all cases.

21.—Distribution of Deaths in Canada by Certain Age Groups, Numbers and Percentages, 1929-30.

Age Group.	Male.		Female.		Male.		Female.	
	1929.	1930.	1929.	1930.	1929.	1930.	1929.	1930.
	No.	No.	No.	No.	p.c.	p.c.	p.c.	p.c.
Under 1 year.....	12,336	12,284	9,338	9,458	20.3	20.8	17.8	18.8
1 year.....	1,930	1,569	1,563	1,397	3.2	2.7	3.0	2.8
2 years.....	853	781	781	630	1.4	1.3	1.5	1.3
3 years.....	582	544	533	440	1.0	0.9	1.0	0.9
4 years.....	498	424	473	383	0.8	0.7	0.9	0.8
Totals, under 5 years.....	16,199	15,602	12,688	12,308	26.6	26.4	24.1	24.5
5-9 years.....	1,535	1,483	1,370	1,132	2.5	2.5	2.6	2.3
10-14 years.....	1,049	926	975	862	1.7	1.6	1.9	1.7
15-19 years.....	1,556	1,436	1,347	1,397	2.6	2.4	2.6	2.8
20-24 years.....	1,604	1,663	1,683	1,549	2.6	2.8	3.2	3.1
25-29 years.....	1,517	1,486	1,612	1,526	2.5	2.5	3.1	3.0
30-34 years.....	1,374	1,349	1,539	1,393	2.3	2.3	2.9	2.8
35-39 years.....	1,703	1,637	1,731	1,585	2.8	2.8	3.3	3.2
40-44 years.....	2,046	1,970	1,810	1,754	3.4	3.3	3.4	3.5
45-49 years.....	2,457	2,410	1,860	1,840	4.0	4.1	3.5	3.7
50-54 years.....	2,814	2,797	2,079	2,012	4.6	4.7	4.0	4.0
55-59 years.....	2,978	3,038	2,274	2,284	4.9	5.1	4.3	4.6
60-64 years.....	3,698	3,546	2,918	2,735	6.1	6.0	5.5	5.4
65-69 years.....	4,609	4,372	3,688	3,533	7.6	7.4	7.0	7.0
70-74 years.....	4,903	4,941	4,258	4,034	8.1	8.4	8.1	8.0
75-79 years.....	4,547	4,482	4,148	3,875	7.5	7.6	7.9	7.7
80-89 years.....	5,421	5,062	5,518	5,279	8.9	8.6	10.5	10.5
90 years and over.....	821	832	1,084	1,091	1.3	1.4	2.1	2.2
Stated ages.....	60,831	59,032	52,582	50,189	—	—	—	—
Ages not stated.....	89	77	13	8	—	—	—	—
Totals, All Ages.....	60,920	59,109	52,595	50,197	—	—	—	—

The quartile and decile ages of decedents for the years 1927-29 are given for each sex and for the two sexes combined in Table 22. The fifth decile and second quartile (or the median) both mark the middle points of the arrays, and the deciles, dividing each half into five groups, give a more detailed picture of the age distribution in each half than do the quartiles. From the decile array it is apparent that for both sexes the greatest age increase has taken place in the third decile. In 1927 three-tenths of the decedents were under 9.78 years of age but three-tenths of the decedents were under 16.07 years of age in 1928 and 15.42 years in 1929. A further analysis of figures, for males and females, shows that the increase in age for this decile was mainly accounted for by the increase in the age of male decedents.

22.—Quartile and Decile Ages of Decedents by Sex, 1927-29.

Position in Array by Age.	Both Sexes.			Male.			Female.		
	1927.	1928.	1929.	1927.	1928.	1929.	1927.	1928.	1929.
First quartile..... years of age	2.58	4.67	4.45	1.80	3.34	3.15	3.96	6.82	6.30
Second quartile..... "	45.94	49.01	48.99	46.04	48.92	48.86	45.83	49.12	49.1
Third quartile..... "	70.32	71.32	71.25	69.69	70.52	70.47	71.07	72.29	72.28
First decile..... months of age	0.99	1.27	1.43	0.71	0.94	1.03	1.49	1.77	1.90
Second decile..... "	10.09	14.28	15.48	7.87	10.64	11.25	14.64	19.92	21.0
Third decile..... years of age	9.78	16.07	15.42	6.76	13.31	12.52	13.70	18.45	18.00
Fourth decile..... "	29.37	34.30	33.85	28.16	33.80	33.21	30.56	34.75	34.4
Fifth decile..... "	45.94	49.01	48.99	46.04	48.92	48.86	45.83	49.12	49.1
Sixth decile..... "	58.28	60.13	60.20	57.89	59.60	59.48	58.74	60.70	61.1
Seventh decile..... "	66.89	68.06	68.19	66.25	67.31	67.37	67.59	68.90	69.0
Eighth decile..... "	73.73	74.48	74.39	72.97	73.64	73.61	74.67	75.44	75.2
Ninth decile..... "	80.56	81.00	80.91	79.65	80.00	80.19	81.60	82.20	81.8

Death Rates by Age Groups.—The death rates per 1,000 persons living in each group were shown in a table on p. 175 of the 1927-28 Year Book for the years 1921-24. The calculations were made on the assumption that the age constitution of the estimated population of the later years was the same as that of the ascertained population of the census year.

Adjusted Death Rate.—While the crude death rate gives the actual mortality per 1,000 of population, the differing age constitution of the population in different communities and the high mortality among infants and elderly people makes the crude death rate no true test of the relative expectation of life in such communities. Where the age constitution of a particular group is particularly favourable to low mortality, for example in an army in peace time, the crude death rate will be lower than elsewhere.

The desire to eliminate from summary rates the effects of differences in age constitution between communities whose mortality is being compared has led to the use of "standardized" or "adjusted" death rates, constructed by applying rates for the individual age groups, or age and sex groups to some population chosen as a standard. On p. 157 of the Canada Year Book 1931, will be found a series of such adjusted rates for the provinces of Canada up to the year 1928, the standard population chosen for the purpose being that of England and Wales at the census of 1901.

In view, however, of the changes in age distribution which may have taken place in the Canadian population since the census of 1921, it has been decided to discontinue this series. When the population by age groups according to the census of 1931 is known, a revised series will be constructed covering the period between the two censuses. This series it is hoped to include in the Year Book for 1933.

Causes of Death.—More than 85 p.c. of deaths recorded in the present registration area in the years 1928 to 1930 were due to the 30 causes specified in Tables 23 and 24. Attention may be drawn to the decline in the number of deaths from ill-defined diseases as showing the increasing accuracy of diagnoses and of the resulting statistics (Table 23).

Total deaths in 1930 showed a substantial reduction from the high level of 1929 and were more comparable to the 1928 figures. The influenza epidemic of 1929 accounted for the temporarily high increase in the total, but the deaths from this cause were fewer in 1930 than they have ever been since figures were made available for the whole of Canada. It is significant, however, that cancer, tuberculosis, diseases of the heart and arteries, and appendicitis are increasingly important causes of death in spite of all efforts to control these diseases. Suicides, and violent deaths apart from suicides, also show persistent increases—a condition not characteristic of Canada alone but common to most modern civilizations.

23.—Deaths in the Former Registration Area of Canada, by Principal Causes, 1928-1930, and in the Present Registration Area, 1927-30.

Int. List No. ¹	Cause of Death.	Former Registration Area.			Present Registration Area. ²			
		1928.	1929.	1930.	1927.	1928.	1929.	1930.
1	Typhoid fever.....	207	227	193	1,112	467	467	451
7	Measles.....	175	422	170	616	337	619	521
8	Scarlet fever.....	172	247	213	411	346	440	397
9	Whooping cough.....	421	466	484	1,030	727	755	964
10	Diphtheria.....	503	579	428	1,012	916	980	737
11	Influenza.....	3,075	4,708	1,618	3,451	4,703	7,170	2,472
31	Tuberculosis, lungs.....	3,804	3,755	3,874	6,444	6,490	6,443	6,581
32-37	Tuberculosis, other organs.....	850	731	851	1,338	1,370	1,329	1,494
43-49	Cancer.....	6,470	6,661	6,927	7,919	8,514	8,792	9,273
57	Diabetes mellitus.....	820	878	841	1,083	1,097	1,208	1,146
58	Anæmia chlorosis.....	537	534	568	793	732	693	740
71	Meningitis.....	293	279	286	812	768	796	803
74	Cerebral hæmorrhage, apoplexy.....	2,490	2,422	2,262	2,938	3,094	2,986	2,827
75	Paralysis without specified cause.....	492	443	412	1,108	1,011	984	907
80	Infantile convulsions (under 5 years).....	315	307	264	553	440	429	380
87-90	Diseases of the heart.....	9,471	9,919	9,679	11,775	12,630	13,205	13,067
91	Diseases of the arteries.....	4,688	4,941	5,494	5,110	5,644	5,940	6,560
99	Bronchitis.....	339	288	284	505	522	471	443
100-101	Pneumonia.....	5,538	5,567	4,827	7,562	8,425	8,441	7,338
113-114	Diarrhœa and enteritis.....	1,593	1,906	2,604	5,534	5,032	4,910	6,013
117	Appendicitis.....	999	1,017	1,058	1,382	1,405	1,451	1,488
118	Hernia, intestinal obstruction.....	630	702	724	910	856	962	963
128-129	Nephritis.....	3,438	3,394	3,327	5,235	5,715	5,687	5,570
135	Diseases of the prostate.....	561	539	579	638	785	739	801
143-150	Puerperal causes.....	887	911	942	1,300	1,331	1,341	1,405
159	Congenital malformations.....	957	1,012	1,001	1,347	1,441	1,466	1,475
160-163	Diseases of early infancy.....	5,175	5,319	5,251	9,246	9,215	9,144	8,974
164	Senility (old age).....	1,804	1,840	1,761	2,470	2,408	2,505	2,334
165-174	Suicides.....	654	725	896	759	751	835	1,010
175-203	Violent deaths (suicides excepted).....	4,776	4,884	4,930	5,509	6,174	6,316	6,468
	Other specified causes.....	9,642	10,022	10,101	14,319	14,566	14,835	14,713
	Totals, specified causes.....	71,776	75,645	72,849	104,221	107,900	112,339	108,315
204-205	Ill-defined diseases.....	649	649	512	1,071	1,151	1,176	991
	Totals.....	72,425	76,294	73,361	105,292	109,057	113,515	109,306

¹ The numbers given in this column refer to the International List of Causes of Death, as revised in 1920 by the International Commission on the Classification of Diseases and Causes of Death. This classification is accepted in almost all civilized countries. ² For the whole nine provinces, Quebec having come into the registration area as from Jan. 1, 1926.

24.—Death Rates per 100,000 Population in the Former Registration Area, by Principal Causes, 1928-30, and in the Present Registration Area, 1927-30.

Int. List No. ¹	Cause of Death.	Former Registration Area.			Present Registration Area. ²			
		1928.	1929.	1930.	1927.	1928.	1929.	1930.
1	Typhoid fever.....	3	3	3	12	5	5	4
7	Measles.....	2	6	2	6	3	6	5
8	Scarlet fever.....	2	3	3	4	4	4	4
9	Whooping cough.....	6	6	7	11	7	8	9
10	Diphtheria.....	7	8	6	11	9	10	7
11	Influenza.....	43	65	22	36	48	72	24
31	Tuberculosis, lungs.....	54	52	53	67	66	64	65
32-37	Tuberculosis, other organs.....	12	10	12	14	14	13	15
43-49	Cancer.....	91	92	94	82	87	88	91
57	Diabetes mellitus.....	12	12	11	11	11	12	11
58	Anæmia chlorosis.....	8	7	8	8	7	7	7
71	Meningitis.....	4	4	4	8	8	8	8
74	Cerebral hæmorrhage, apoplexy.....	35	33	31	31	32	30	28
75	Paralysis without specified cause.....	7	6	6	12	10	10	9

24.—Death Rates per 100,000 Population in the Former Registration Area, by Principal Causes, 1928-30, and in the Present Registration Area, 1927-30—concluded.

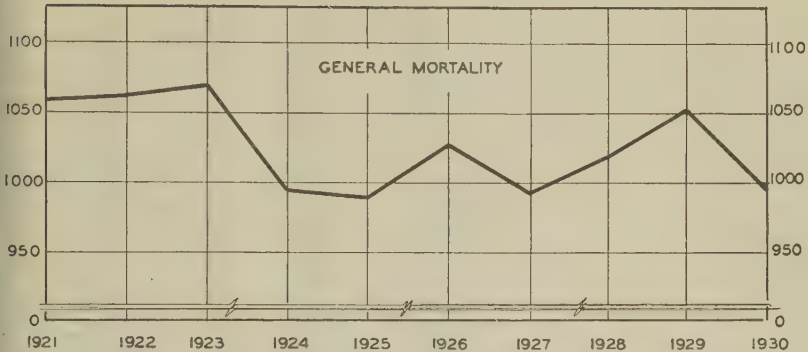
Int. List No. ¹	Cause of Death.	Former Registration Area.			Present Registration Area. ²			
		1928.	1929.	1930.	1927.	1928.	1929.	1930.
80	Infantile convulsions (under 5 years).....	4	4	4	6	4	4	4
87-90	Diseases of the heart.....	133	137	131	122	129	132	128
91	Diseases of the arteries.....	66	68	75	53	57	59	64
99	Bronchitis.....	5	4	4	5	5	5	4
100-101	Pneumonia.....	78	77	65	79	86	84	72
113-114	Diarrhoea and enteritis.....	22	26	35	58	51	49	59
117	Appendicitis.....	14	14	14	14	14	14	13
118	Hernia, intestinal obstruction....	9	10	10	9	9	10	9
128-129	Nephritis.....	48	47	45	54	58	57	55
135	Diseases of the prostate.....	8	7	8	7	8	7	8
143-150	Puerperal causes.....	12	13	13	14	14	13	14
159	Congenital malformations.....	13	14	14	14	15	15	14
160-163	Diseases of early infancy.....	73	73	71	96	94	91	88
164	Senility (old age).....	25	25	24	26	25	25	23
165-174	Suicides.....	9	10	12	8	8	8	19
175-203	Violent deaths (suicides excepted).....	67	67	67	57	63	63	62
	Other specified causes.....	136	138	137	149	148	148	144
	Totals, specified causes....	1,010	1,044	988	1,083	1,099	1,122	1,062
204-205	Ill-defined diseases.....	9	9	7	11	12	12	13
	Totals, Death Rates per 100,000 Population....	1,019	1,053	995	1,094	1,110	1,133	1,072

¹See footnote 1, Table 23. ²Canada, including Quebec, which was included in the registration area as from Jan. 1, 1926.

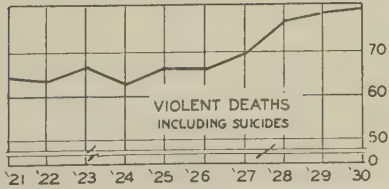
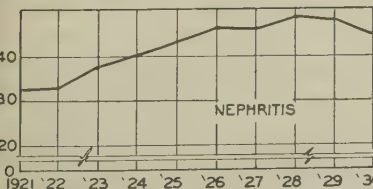
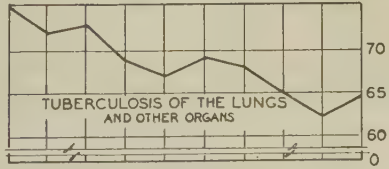
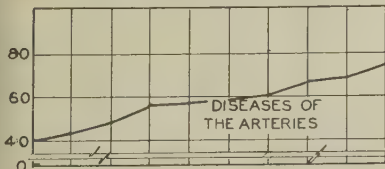
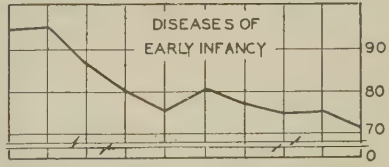
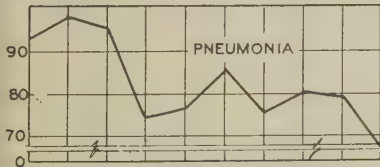
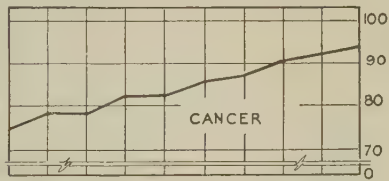
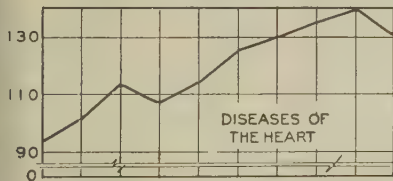
Vital Statistics of Yukon and Northwest Territories.—The vital statistics of the Yukon and the Northwest Territories have been collected and compiled for 1924, 1925, 1926, 1927, 1928 and 1929. They have not been included with those of the registration area, because of the difficulty of securing complete and accurate information in these isolated areas and the very small numbers concerned. In the Yukon Territory the births reported numbered 31 in 1924, 22 in 1925, 27 in 1926, 29 in 1927, 30 in 1928 and 35 in 1929; marriages 5 in 1924, 17 in 1925, 12 in 1926, 19 in 1927, 13 in 1928 and 10 in 1929; deaths 38 in 1924, 63 in 1925, 68 in 1926, 33 in 1927, 46 in 1928 and 54 in 1929. In the Northwest Territories, births reported were 95 in 1924, 57 in 1925, 75 in 1926, 126 in 1927, 222 in 1928 and 133 in 1929; marriages 37 in 1924, 35 in 1925, 3 in 1926, 20 in 1927, 30 in 1928 and 29 in 1929; deaths 47 in 1924, 32 in 1925, 51 in 1926, 133 in 1927, 367 in 1928 and 168 in 1929.

Deaths in Canadian Cities.—Table 25 gives the number of deaths in Canadian cities of 10,000 population and over in each of the years from 1926 to 1930. Generally speaking, 1929 was a year of high death rates, the total number of deaths reported for the Dominion being 113,515 as compared with 107,454 in 1926. The 1929 figures for most cities show a corresponding increase in the number of deaths. It is probable that these cities contained a larger proportion of the total population in 1929 than in 1926 and it is quite likely that the number of non-residents dying in the hospitals of the cities is also on the increase. Deaths for 1930 show a decrease in most cities from the high levels of 1929 although Quebec city shows an increase of 230.

DEATH RATES PER 100,000 POPULATION IN THE
FORMER REGISTRATION AREA (ALL PROVINCES EXCEPT QUEBEC)
1921—1930



EIGHT IMPORTANT CAUSES OF DEATH (RATES PER 100,000)



**25.—Total Deaths (exclusive of Stillbirths) in Cities of 10,000 Population and Over
1926-30.**

City.	1926.	1927.	1928.	1929.	1930.
Belleveille, Ont.....	199	227	239	241	242
Brandon, Man.....	226	230	242	279	242
Brantford, Ont.....	360	347	403	405	395
Brockville, Ont.....	155	149	171	200	187
Calgary, Alta.....	698	615	814	874	731
Charlottetown, P.E.I.....	248	202	278	310	283
Chatham, Ont.....	247	314	306	315	320
Edmonton, Alta.....	795	789	861	988	878
Fort William, Ont.....	233	179	211	244	209
Galt, Ont.....	145	180	181	167	189
Gloucester, Ont.....	275	344	256	289	308
Guelph, Ont.....	233	224	241	245	233
Halifax, N.S.....	858	876	837	987	883
Hamilton, Ont.....	1,423	1,353	1,471	1,612	1,506
Hull, Que.....	363	382	369	327	331
Kingston, Ont.....	458	428	445	536	522
Kitchener, Ont.....	282	296	293	294	343
Lachine, Que.....	228	205	240	200	196
Lethbridge, Alta.....	170	140	199	217	179
Lévis, Que.....	255	201	227	215	218
London, Ont.....	1,061	1,058	1,122	1,126	1,080
Moncton, N.B.....	224	243	276	243	233
Montreal, Que.....	10,898	11,034	11,936	11,452	10,974
Moose Jaw, Sask.....	218	228	235	230	218
New Westminster, B.C.....	246	248	297	291	282
Niagara Falls, Ont.....	194	188	220	266	209
North Bay, Ont.....	135	133	129	166	180
Oshawa, Ont.....	165	238	227	214	234
Ottawa, Ont.....	1,618	1,536	1,645	1,773	1,747
Outremont, Que.....	106	74	84	128	135
Owen Sound, Ont.....	164	147	172	176	157
Peterborough, Ont.....	277	307	305	347	304
Port Arthur, Ont.....	205	221	222	233	241
Quebec, Que.....	2,211	2,091	2,313	2,251	2,481
Regina, Sask.....	422	402	520	555	507
St. Boniface, Man.....	417	495	465	529	502
St. Catharines, Ont.....	316	272	331	345	322
St. Hyacinthe, Que.....	244	260	281	332	325
Saint John, N.B.....	707	671	710	786	685
St. Thomas, Ont.....	225	222	214	243	228
Sarnia, Ont.....	206	215	216	233	238
Saskatoon, Sask.....	433	496	498	499	499
Sault Ste. Marie, Ont.....	222	203	228	209	230
Shawinigan Falls, Que.....	191	185	218	212	191
Sherbrooke, Que.....	450	411	467	481	442
Stratford, Ont.....	198	194	199	203	208
Sydney, N.S.....	276	272	245	186	224
Toronto, Ont.....	6,295	6,263	6,962	7,100	7,057
Three Rivers, Que.....	549	539	556	592	542
Vancouver, B.C. ¹	1,973	2,108	2,201	2,310	2,281
Verdun, Que.....	339	361	441	425	424
Victoria, B.C.....	523	482	558	590	607
Westmount, Que.....	101	71	128	152	261
Windsor, Ont.....	752	705	689	689	612
Winnipeg, Man.....	1,698	1,656	1,808	1,814	1,807

¹Though Point Grey and South Vancouver were not incorporated into Vancouver until Jan. 1, 1928, their statistics are included in the figures for Vancouver for the years 1926-28.

Comparative Crude Death Rates of Different Countries.—In Table 26 will be found a comparative statement of the crude death rates of various countries and provinces for the latest available year. It is worthy of note that three Canadian provinces rank among the four countries or provinces with the lowest death rates in the list and that Canada has a lower death rate than most other leading countries. The low death rates in the Prairie Provinces are in all three cases due in part to a favourable age distribution of population.

26.—Crude Death Rates of Various Countries in Recent Years.

Country or Province.	Year.	Crude Death Rate.	Country or Province.	Year.	Crude Death Rate.
Saskatchewan.....	1930	7.0	Germany.....	1929	12.6
Alberta.....	1930	7.8	Quebec.....	1930	12.7
Manitoba.....	1930	8.3	Panama.....	1928	12.9
South Australia.....	1929	8.7	England and Wales.....	1929	13.4
New Zealand.....	1929	8.8	Finland.....	1928	13.5
Queensland.....	1929	9.0	Newfoundland.....	1929	14.4
Australia.....	1929	9.5	Austria.....	1929	14.5
British Columbia.....	1930	9.5	Scotland.....	1929	14.5
Union of South Africa (Whites).....	1929	9.5	Irish Free State.....	1929	14.6
Victoria.....	1929	9.5	Latvia.....	1929	15.0
Western Australia.....	1929	9.6	Belgium.....	1929	15.1
New South Wales.....	1929	10.0	Czechoslovakia.....	1929	15.5
Tasmania.....	1929	10.2	Estonia.....	1928	15.9
Canada.....	1930	10.7	Northern Ireland.....	1929	15.9
Netherlands.....	1929	10.7	Italy.....	1929	16.1
Uruguay.....	1929	10.7	Greece.....	1928	17.0
Prince Edward Island.....	1930	10.9	Bulgaria.....	1928	17.5
Ontario.....	1930	11.0	Hungary.....	1929	17.7
Denmark.....	1929	11.2	France.....	1929	18.0
Norway.....	1929	11.5	Spain.....	1929	18.0
Prussia.....	1928	11.5	Jamaica.....	1929	18.4
Ireland.....	1929	11.6	Roumania.....	1929	19.6
United States (Reg. Area).....	1929	11.9	Japan.....	1929	20.0
Nova Scotia.....	1930	12.1	Ceylon.....	1929	24.9
Sweden.....	1929	12.2	British India.....	1928	25.6
New Brunswick.....	1930	12.3	Chile.....	1929	25.8
Switzerland.....	1929	12.4	Egypt.....	1929	26.2

Subsection 2.—Infantile and Maternal Mortality.

In recent years a great part of the energy devoted by the medical profession and sanitarians to effect a decline in the death rate has gone to reduce infantile mortality, and in this field a large measure of success has been attained. In Canada, both the Dominion, provincial and municipal health authorities have taken part in the struggle to reduce infantile mortality, and usually, in the absence of epidemics, each year is showing an improvement. In the ten years for which the figures are available there is evident a very considerable decline in infantile mortality. In 1921 the infant death rate for Canada (using figures from provincial sources for Quebec) was 102 per 1,000 living births. This rate has been reduced to 89.3 in 1930. Table 27 gives figures for the whole of Canada for the years 1926 to 1930 and averages for the five-year periods 1921-25 and 1926-30. As in the case of general mortality but even to a more pronounced extent it will be seen that the infant deaths in Quebec far exceed those in any other province, although a study of the rates shows that much steady improvement has been made in the five-year period during which the province has been included in the registration area.

27.—Infantile Mortality, by Provinces, together with the Rate per 1,000 Living Births, 1926-30 with Averages for 1921-25 and 1926-30.

A.—INFANT DEATHS.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada. ¹
Average 1921-25.....	151	1,139	1,165	1	5,916	1,394	1,789	1,327	621	1
Average 1926-30.....	122	934	1,039	10,518	5,091	1,031	1,559	1,195	571	22,060
1926.....	123	882	1,095	11,666	5,302	1,122	1,681	1,233	588	23,692
1927.....	113	1,028	1,066	10,739	4,812	1,021	1,575	1,110	606	22,010
1928.....	92	865	960	10,332	4,880	972	1,370	1,200	524	21,195
1929.....	150	960	1,090	9,810	5,203	1,005	1,571	1,310	575	21,674
1930.....	132	937	1,048	10,045	5,260	1,035	1,601	1,122	562	21,742

B.—INFANT DEATH RATE PER 1,000 LIVING BIRTHS.

	76.8	93.7	105.0	1	82.7	83.7	83.0	85.8	60.6	1
Average 1921-25.....	76.8	93.7	105.0	1	82.7	83.7	83.0	85.8	60.6	1
Average 1926-30.....	70.6	84.8	100.7	127.1	74.1	71.6	73.3	75.5	55.2	93.8
1926.....	70.2	80.3	105.9	142.0	78.4	76.5	81.1	85.3	58.4	101.8
1927.....	66.6	92.3	96.0	129.3	71.1	72.2	74.9	74.5	60.1	94.6
1928.....	50.9	79.1	95.6	123.6	71.2	67.0	64.4	76.5	50.5	89.5
1929.....	89.8	89.8	106.5	120.5	76.0	70.6	73.3	77.4	55.4	92.1
1930.....	75.5	82.6	99.5	120.1	73.8	71.8	72.6	63.6	51.7	89.5

¹ Quebec not included in registration area prior to 1926.

² Exclusive of the Territories.

Infantile Mortality by Causes of Death.—Twenty principal causes of death accounted in the years 1926 to 1930 for between 92 and 93 p.c. of the infantile mortality experienced in the Dominion, as is shown in Table 28. It is noteworthy that four causes present at birth, *viz.*, premature birth, injuries at birth, congenital debility and congenital malformations, accounted for over 42 p.c. of the infant deaths of 1930. In the previous year 48.12 p.c. of all infants dying were less than one month old, and 33.63 p.c. less than one week old, as is shown in Table 29.

28.—Infantile Mortality in Canada by Principal Causes of Death, 1926-30.

NOTE.—Figures for the former registration area for the years 1921 to 1924 will be found at pp. 182-3 of the 1927-28 Year Book and for 1925 to 1927 at pp. 177-8 of the 1929 Year Book.

Cause of Death..	Inter-national List No.	Year.	Males.		Females.		Both Sexes.		
			No.	Rate per 100,000 living births.	No.	Rate per 100,000 living births.	No.	Per cent distribution by cause of death.	Rate per 100,000 living births.
Measles.....	7	1926	141	118	122	108	263	1.1	113
		1927	113	94	74	65	187	0.8	80
		1928	50	41	39	34	89	0.4	38
		1929	88	73	84	73	172	0.8	73
		1930	119	95	93	78	212	1.0	87
Scarlet fever.....	8	1926	13	11	12	11	25	0.1	11
		1927	23	19	12	11	35	0.2	15
		1928	12	10	13	11	25	0.1	11
		1929	10	8	10	9	20	0.1	8
		1930	17	14	13	11	30	0.1	12
Whooping cough.....	9	1926	358	299	415	368	773	3.3	332
		1927	336	278	304	268	640	2.9	273
		1928	230	189	239	207	469	2.2	198
		1929	231	191	223	195	454	2.1	193
		1930	345	276	341	287	686	3.2	282
Diphtheria	10	1926	24	20	23	20	47	0.2	20
		1927	24	20	24	21	48	0.2	20
		1928	22	18	26	23	48	0.2	20
		1929	22	18	21	18	43	0.2	18
		1930	29	23	20	17	49	0.2	20

8.—Infantile Mortality in Canada by Principal Causes of Death, 1926-30—continued.

Cause of Death.	Inter- national List No.	Year.	Males.		Females.		Both Sexes.		
			No.	Rate per 100,000 living births.	No.	Rate per 100,000 living births.	No.	Per cent distribu- tion by cause of death.	Rate per 100,000 living births.
Influenza.....		11	1926 576	481	374	331	950	4.0	408
			1927 411	341	308	271	719	3.3	307
			1928 500	412	331	287	831	3.9	351
			1929 686	567	543	474	1,229	5.7	522
			1930 284	227	186	157	470	2.2	193
Erysipelas.....		21	1926 51	43	50	44	101	0.4	43
			1927 48	40	47	41	95	0.4	41
			1928 45	37	46	40	91	0.4	38
			1929 55	45	45	39	100	0.5	42
			1930 49	39	34	29	83	0.4	34
Tuberculosis.....		31-37	1926 131	109	102	90	233	1.0	100
			1927 100	83	88	78	188	0.9	80
			1928 105	86	89	77	194	0.9	82
			1929 116	96	86	75	202	0.9	86
			1930 116	93	111	94	227	1.0	93
Syphilis.....		38	1926 68	57	60	53	128	0.5	55
			1927 70	58	61	54	131	0.6	56
			1928 81	67	48	42	129	0.6	54
			1929 72	60	77	67	149	0.7	63
			1930 113	91	91	77	204	0.9	84
Meningitis (simple).....		71a	1926 201	168	126	112	327	1.4	140
			1927 186	154	139	122	325	1.5	139
			1928 149	123	151	131	300	1.4	127
			1929 165	136	117	102	282	1.3	120
			1930 174	139	131	110	305	1.4	125
Convulsions.....		80	1926 263	219	177	157	440	1.9	189
			1927 265	220	176	155	441	2.0	188
			1928 208	171	140	121	348	1.6	147
			1929 181	150	135	118	316	1.5	134
			1930 164	131	127	107	291	1.3	120
Bronchitis.....		99	1926 90	75	60	53	150	0.6	64
			1927 74	61	60	53	134	0.6	57
			1928 71	58	56	49	127	0.6	54
			1929 79	65	58	51	137	0.6	58
			1930 73	58	46	39	119	0.5	49
Pneumonia.....		100-101	1926 1,410	1,176	1,077	954	2,487	10.5	1,069
			1927 1,210	1,003	940	828	2,150	9.8	918
			1928 1,251	1,030	958	831	2,209	10.4	933
			1929 1,368	1,132	1,026	896	2,394	11.0	1,017
			1930 1,317	1,055	949	800	2,266	10.4	931
Diseases of the stomach.....		110-112	1926 156	130	126	112	282	1.2	121
			1927 170	141	132	116	302	1.4	129
			1928 132	109	111	96	243	1.1	103
			1929 131	108	114	100	245	1.1	104
			1930 107	86	92	78	199	0.9	82
Diarrhœa and enteritis.....		113	1926 2,451	2,045	1,867	1,654	4,318	18.2	1,855
			1927 2,430	2,014	1,819	1,602	4,249	19.3	1,814
			1928 2,228	1,834	1,671	1,450	3,899	18.4	1,647
			1929 2,126	1,759	1,583	1,382	3,709	17.1	1,576
			1930 2,585	2,070	1,944	1,639	4,529	20.8	1,860
Hernia, intestinal obstruction.		118	1926 68	57	39	35	107	0.5	46
			1927 73	61	32	28	105	0.5	45
			1928 64	53	24	21	88	0.4	37
			1929 66	55	43	38	109	0.5	46
			1930 67	54	36	30	103	0.5	42
Congenital malformations.....		159	1926 777	648	635	563	1,412	6.0	607
			1927 661	548	595	524	1,256	5.7	536
			1928 702	578	597	518	1,299	6.1	549
			1929 762	630	562	491	1,324	6.1	562
			1930 736	589	608	512	1,344	6.2	552
Congenital debility.....		160	1926 1,353	1,129	1,000	886	2,353	9.9	1,011
			1927 1,355	1,123	1,013	892	2,368	10.8	1,011
			1928 1,372	1,129	966	838	2,338	11.0	988
			1929 1,333	1,103	989	864	2,322	10.7	986
			1930 1,195	957	909	766	2,104	9.7	864
Premature birth.....		161a	1926 2,936	2,449	2,147	1,902	5,083	21.5	2,184
			1927 2,550	2,113	1,852	1,631	4,402	20.0	1,880
			1928 2,500	2,058	2,079	1,804	4,579	21.6	1,934
			1929 2,545	2,105	1,938	1,692	4,483	20.7	1,904
			1930 2,516	2,014	2,001	1,687	4,516	20.8	1,855

28.—Infantile Mortality in Canada by Principal Causes of Death, 1926-30—concluded

Cause of Death.	Inter-national List No.	Year.	Males.		Females.		Both Sexes.		
			No.	Rate per 100,000 living births.	No.	Rate per 100,000 living births.	No.	Per cent distribution by cause of death.	Rate per 100,000 living births.
Injury at birth.....	161b	1926	563	470	386	342	949	4.0	4.9
		1927	601	498	408	359	1,009	4.6	4.8
		1928	644	530	373	324	1,017	4.8	4.8
		1929	617	510	381	333	998	4.6	4.4
		1930	723	579	504	425	1,227	5.6	5.4
Other diseases peculiar to early infancy.....	162	1926	885	738	622	551	1,507	6.4	6.7
		1927	848	703	606	534	1,454	6.6	6.1
		1928	734	604	542	470	1,276	6.0	5.2
		1929	761	629	572	499	1,333	6.2	5.6
		1930	608	487	497	419	1,105	5.1	4.4
Other specified causes.....	—	1926	919	767	680	602	1,599	6.7	6.9
		1927	921	763	713	628	1,634	7.4	6.8
		1928	841	692	603	523	1,444	6.8	6.1
		1929	842	696	645	563	1,487	6.9	6.2
		1930	855	685	646	544	1,501	6.9	6.6
Ill-defined causes.....	204-205	1926	103	86	55	49	158	0.7	0.8
		1927	79	65	59	52	138	0.6	0.6
		1928	85	70	67	58	152	0.7	0.6
		1929	80	66	86	75	166	0.8	0.7
		1930	93	74	79	67	172	0.8	0.7
All causes.....	—	1926	13,537	11,294	10,155	8,996	23,692	100.0	10,176
		1927	12,548	10,400	9,462	8,334	22,010	100.0	9,369
		1928	12,026	9,898	9,169	7,956	21,195	100.0	8,952
		1929	12,336	10,204	9,338	8,154	21,674	100.0	9,207
		1930	12,284	9,839	9,458	7,972	21,742	100.0	8,929

29.—Proportion per 1,000 Deaths of Infants Under 1 Year of Age Occurring at each Age Period, 1929.

Age at Death.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Under 1 month.....	366.7	426.0	454.1	434.9	547.6	507.5	563.3	503.8	523.5	481.2
Under 1 day.....	66.7	140.6	150.5	167.0	207.0	183.1	196.7	193.9	196.5	179.2
1 day and under 1 week.....	146.7	179.2	144.0	129.4	194.7	173.1	185.9	148.1	194.8	157.1
1 week and under 2 weeks.....	60.0	45.8	64.2	54.5	59.6	53.7	77.7	78.6	67.8	59.3
2 weeks and under 3 weeks.....	66.7	31.3	46.8	44.6	42.3	43.8	56.0	45.0	36.5	44.3
3 weeks and under 1 month.....	26.7	29.2	48.6	39.3	44.0	53.7	47.1	38.2	27.8	41.2
1 month and under 2 months.....	113.3	87.5	89.9	110.1	79.8	96.5	84.7	106.1	81.7	97.4
2 months and under 3 months.....	86.7	90.6	96.3	93.4	75.3	75.6	66.8	94.7	87.0	86.2
3 months and under 4 months.....	60.0	76.0	62.4	70.2	57.9	65.7	58.6	56.5	53.9	64.7
4 months and under 5 months.....	73.3	58.3	54.1	55.2	42.9	53.7	49.0	41.2	31.3	50.5
5 months and under 6 months.....	73.3	53.1	51.4	47.7	37.7	42.8	37.6	44.3	36.5	44.4
6 months and under 7 months.....	66.7	54.2	38.5	40.9	37.7	34.8	30.6	34.4	40.0	39.3
7 months and under 8 months.....	26.7	31.3	32.1	33.1	28.6	27.9	29.9	22.9	36.5	30.9
8 months and under 9 months.....	46.7	40.6	38.5	33.4	27.7	28.9	26.7	27.5	17.4	31.2
9 months and under 10 months.....	33.3	30.2	36.7	33.4	25.9	28.9	17.8	17.6	36.5	29.4
10 months and under 11 months.....	20.0	29.2	24.8	28.5	21.3	14.9	15.9	26.0	24.3	24.8
11 months and under 1 year.....	33.3	22.9	21.1	19.1	17.7	22.9	19.1	25.2	31.3	20.0
Totals.....	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0

Infantile Mortality in Canadian Cities.—Table 30 shows for the cities of 10,000 population and over, in the nine provinces of Canada covered in the present registration area, the numbers of infant deaths and the rates of deaths per 1,000 living births for the years 1927-30. In the latest year Vancouver, B.C., had the lowest infant death rate, namely, 38.2, with Stratford, 41.9, the next lowest. St. Hyacinthe, Quebec, Three Rivers, Shawinigan Falls and Montreal have all very high infant death rates for 1930, but it is noteworthy that in the case of the last two named cities there is substantial improvement over the preceding year. The rate for Halifax increased from 71.6 in 1928 to 110.7 in 1929, but the more normal rate of 76.5 is recorded for 1930.

D.—Deaths and Death Rates of Children Under One Year of Age (Exclusive of Still-births) in Cities of 10,000 and Over, 1927-30.

City.	Infant Deaths.				Rate per 1000 Living Births.			
	1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.
elleville, Ont.	30	29	26	27	80.9	78.2	71.0	68.4
randon, Man.	27	29	29	20	71.8	69.2	71.4	53.5
rantford, Ont.	37	45	67	74	57.2	63.3	94.1	101.1
rockville, Ont.	10	17	25	22	49.0	78.3	103.7	81.5
algary, Alta.	85	108	115	125	51.8	61.6	57.3	60.6
harlottetown, P.E.I.	23	21	34	33	84.9	76.9	127.8	98.2
hatham, Ont.	38	40	31	47	83.9	81.0	65.3	83.2
dmonton, Alta.	113	137	161	136	58.2	63.8	70.9	56.9
ort William, Ont.	37	52	59	36	61.5	78.3	91.5	57.8
ait, Ont.	14	18	14	22	52.8	67.7	49.3	70.7
lace Bay, N.S.	121	73	70	96	181.7	107.2	104.9	128.9
uelph, Ont.	21	27	18	23	50.2	74.6	47.4	56.2
alifax, N.S.	124	102	161	119	83.0	71.6	110.7	76.5
amilton, Ont.	187	190	235	187	65.2	63.2	74.2	55.1
ull, Que.	138	142	117	111	129.9	142.1	129.1	108.9
ingston, Ont.	63	44	64	66	106.1	76.4	103.4	100.2
itchener, Ont.	48	35	47	41	69.8	46.6	57.9	49.5
achine, Que.	39	50	50	36	88.6	107.8	107.8	86.3
ethbridge, Alta.	19	34	46	37	54.6	81.7	94.5	63.7
évis, Que.	31	44	30	29	98.4	140.6	96.8	93.9
ondon, Ont.	102	76	84	102	79.3	52.9	61.6	68.7
oncton, N.B.	44	37	35	40	88.2	76.8	62.4	76.2
ontreal, Que.	2,569	2,925	2,717	2,635	132.0	144.4	131.8	125.2
oose Jaw, Sask.	41	42	35	40	65.5	68.1	55.6	67.1
ew Westminster, B.C.	17	29	28	31	34.6	54.2	52.1	55.9
agara Falls, Ont.	21	34	41	28	42.7	76.4	81.8	63.9
orth Bay, Ont.	33	29	30	47	81.3	66.7	73.9	112.7
shawna, Ont.	65	48	47	66	109.2	68.3	64.6	96.2
ttawa, Ont.	286	320	354	331	95.2	106.6	121.1	109.2
utremont, Que.	4	8	10	11	29.6	73.4	78.7	89.4
wen Sound, Ont.	15	18	17	14	50.5	48.9	45.2	44.7
eterborough, Ont.	30	30	48	47	55.0	53.8	77.8	73.6
ort Arthur, Ont.	43	35	55	40	84.3	62.7	94.5	70.9
uebec, Que.	643	776	624	819	147.9	173.5	140.0	183.9
egina, Sask.	84	84	103	104	69.8	61.6	67.9	62.5
t. Boniface, Man.	59	52	63	66	78.5	62.7	70.5	67.3
t. Catharines, Ont.	31	50	37	42	53.7	87.7	64.9	62.6
t. Hyacinthe, Que.	57	50	43	72	179.8	158.7	118.8	191.5
t. Thomas, Ont.	20	12	18	27	60.8	35.2	58.8	83.9
aint John, N.B.	103	103	133	109	88.3	95.1	115.7	89.1
arnia, Ont.	43	30	31	22	98.9	70.4	66.0	48.9
askatoon, Sask.	105	83	74	79	109.1	79.4	65.1	64.0
ault Ste. Marie, Ont.	37	38	46	51	64.0	60.6	69.2	79.4
awinigan Falls, Que.	104	122	104	82	155.2	173.5	162.0	125.6
herbrooke, Que.	76	66	69	84	93.9	87.6	84.4	101.0
tratford, Ont.	21	19	18	17	56.6	47.4	47.7	41.9
ydney, N.S.	46	35	22	41	91.8	72.3	43.8	66.7
oronto, Ont.	810	895	1,002	1,022	70.8	72.5	80.3	75.2
hree Rivers, Que.	247	234	215	232	186.1	162.0	166.8	171.9
ancouver, B.C. ¹	193	164	159	153	52.9	43.0	41.1	38.2
erduin, Que.	88	115	88	81	87.4	108.7	80.4	71.7
ictoria, B.C.	32	35	33	37	48.2	48.4	43.8	50.4
Westmount, Que.	1	6	2	44	26.3	142.9	39.2	120.5
Vindsor, Ont.	142	108	122	111	68.0	64.2	73.8	73.5
Vinnipeg, Man.	273	278	250	269	60.6	61.1	56.2	58.1

¹Though Point Grey and South Vancouver were not incorporated into Vancouver until Jan. 1, 1929, their statistics are included in the figures for Vancouver for the years 1927-1928 for comparative purposes.

Infantile Mortality in Various Countries.—The rate of infantile mortality on living births has been greatly reduced in civilized countries by the recent advances in medical science and in sanitation. The low record is held at the present time by New Zealand, where in 1929 the rate of infantile mortality was only 34.1 per 1,000 living births as compared with 68 in 1905. Norway, the Netherlands and Switzerland with rates of 54.6, 59.0 and 52.1 in the latest available years, were the lowest among European countries.

As showing the improvement in recent years, it may be stated that the rate of infantile mortality in England and Wales has been reduced from 128 per 1,000

living births in 1905 to 74.4 in 1929, while the rate in Germany has declined from 196 in 1904 to 96.4 in 1929. In the Netherlands, again, the rate has declined from 131 per 1,000 living births in 1905 to 59.0 in 1929. Statistics are given by leading countries and by provinces in Table 31.

31.—Rate of Infantile Mortality per 1,000 Living Births in Various Countries of the World in Recent Years.

Country or Province.	Year.	Rate of Infantile Mortality.	Country or Province.	Year.	Rate of Infantile Mortality.
New Zealand.....	1929	34.1	Northern Ireland.....	1929	85.3
South Australia.....	1929	40.9	Scotland.....	1929	86.3
Queensland.....	1929	46.0	Prussia.....	1928	89.5
Victoria.....	1929	47.2	Canada.....	1930	89.5
Australia.....	1929	51.1	Uruguay.....	1929	92.2
British Columbia.....	1930	51.7	France.....	1929	95.5
Switzerland.....	1929	52.1	Germany.....	1929	96.6
Tasmania.....	1929	53.2	Newfoundland.....	1929	97.7
Norway.....	1929	54.6	New Brunswick.....	1930	99.9
Western Australia.....	1929	56.1	Belgium.....	1929	103.3
New South Wales.....	1929	56.4	Estonia.....	1928	105.3
Netherlands.....	1929	59.0	Latvia.....	1929	106.6
Sweden.....	1929	59.3	Austria.....	1929	112.3
Alberta.....	1930	63.6	Quebec.....	1930	120.1
Union of South Africa (Whites)	1929	64.2	Spain.....	1929	123.3
United States (Birth Reg. Area).....	1929	67.6	Italy.....	1929	124.2
Irish Free State.....	1929	70.4	Japan.....	1929	142.2
Manitoba.....	1930	71.8	Czechoslovakia.....	1929	142.2
Saskatchewan.....	1930	72.6	Egypt.....	1927	151.2
Ontario.....	1930	73.8	Salvador.....	1926	155.7
England and Wales.....	1929	74.4	Jamaica.....	1929	160.0
Prince Edward Island.....	1930	75.5	Costa Rica.....	1928	162.2
British Isles.....	1929	75.8	British India.....	1928	172.2
Nova Scotia.....	1930	82.6	Hungary.....	1929	179.2
Denmark.....	1929	82.9	Roumania.....	1928	184.2
Finland.....	1928	84.0	Ceylon.....	1929	186.2
			Chile.....	1929	224.2

Infantile Mortality in Cities.—In former times cities were considered to be “the graveyards of population”. The number of deaths, consequent upon the rapid spread of infectious diseases, was generally greater than the number of births, and it was the prevailing opinion that cities would naturally come to an end if they were not being constantly reinforced by fresh young life from the prolific country side. The unhealthiness of cities was especially destructive of infant life, and it was one of the greatest triumphs of our time that city life is in our day, if not as healthy as life in the country, yet not necessarily more dangerous to human life and especially to infant life than life in the country as a whole.

To give particular examples, the rate of infantile mortality in London, England, was 71 per 1,000 living births in 1929, as compared with a rate for England and Wales of 74.4 per 1,000. New York experienced in 1929 an infantile mortality of 59 per 1,000, as against a rate of 69 per 1,000 for the birth registration area of the United States in 1928. Paris, on the other hand, had in 1929 an infantile mortality of 99 per 1,000 living births, as compared with 95.3 for France. Again, Berlin in 1929 had an infant mortality of 86 per 1,000 living births, as compared with 96.4 in Germany, and Vienna an infant mortality in 1929 of 79 per 1,000 living births as compared with 112.3 for Austria in the same year.

In Canada, Montreal had in 1929 an infantile mortality of 131.8 per 1,000 living births as compared with 120.5 for the province of Quebec. Toronto, too,

had in 1929 an infantile mortality of 80.3 per 1,000 living births as against 76.0 for the province of Ontario, while Winnipeg and Vancouver had much lower infantile mortality rates than their respective provinces.

32.—Rate of Infantile Mortality per 1,000 Living Births in Great Cities of the World in 1929.

City.	Year.	Rate of Infantile Mortality.	City.	Year.	Rate of Infantile Mortality.
Oslo.....	1929	34	Antwerp.....	1929	73
Auckland.....	1929	34	Hamilton, Ont.....	1929	74
Wellington.....	1929	41	Hamburg.....	1929	77
Vancouver.....	1929	41	Birmingham, Eng.....	1929	78
Amsterdam.....	1929	43	Vienna.....	1929	79
Victoria, B.C.....	1929	44	Toronto.....	1929	80
Adelaide.....	1929	44	Edinburgh.....	1929	80
Stockholm.....	1929	46	Johannesburg.....	1929	83
Melbourne.....	1929	51	Munich.....	1929	84
Brisbane.....	1929	55	Dresden.....	1929	85
Copenhagen.....	1929	55	Cork.....	1929	85
Winnipeg.....	1929	56	Berlin.....	1929	86
Hobart.....	1929	56	Sheffield.....	1929	87
Sydney, N.S.W.....	1929	57	Liverpool.....	1929	97
Cape Town.....	1929	57	Manchester.....	1929	97
Calgary.....	1929	57	Prague.....	1929	98
New York.....	1929	59	Paris.....	1929	99
Chicago.....	1929	60	Cologne.....	1929	100
London, Ont.....	1929	62	Glasgow.....	1929	107
Frankfort-on-Main.....	1929	62	Halifax.....	1929	111
Moncton.....	1929	62	Leipzig.....	1929	115
Perth, W. Australia.....	1929	64	Saint John.....	1929	116
Saskatoon.....	1929	65	Breslau.....	1929	119
Regina.....	1929	68	Ottawa.....	1929	121
Washington.....	1929	71	Montreal.....	1929	132
Edmonton.....	1929	71	Quebec.....	1929	140
London, Eng.....	1929	71	Madras.....	1929	254
Brandon.....	1929	71	Bombay.....	1929	299

The infant mortality in the cities of Canada has been greatly reduced in the years since the inauguration of Dominion vital statistics. Thus the rate for Toronto has fallen from 90 in 1921 to 75 in 1930, that for Winnipeg from 78 to 58, for Vancouver from 56 to 38, for Hamilton from 88 to 55, for Ottawa from 130 to 109, for London from 92 to 69, for Edmonton from 89 to 57, for Halifax from 135 to 76, for Saint John from 147 to 89. Altogether, in the 10 cities of 40,000 population and over in the former registration area of Canada, there were 38,488 living births in 1921 and 3,541 infant deaths, being a rate of 92 per 1,000 living births. In 1930 in these same cities there were 37,364 living births, but only 2,553 infant deaths, or a rate of 68.3 per 1,000 living births.

Maternal Mortality.—Of cognate interest with infantile mortality is the maternal mortality arising out of child-birth. This maternal mortality is shown by Table 33 to be at its lowest among mothers in their twenties and to increase with mothers of more advanced years. The mortality among mothers of different ages per 1,000 living births in the nine provinces is shown for the years 1926-30, with totals for all ages. The maternal mortality is shown by age groups for 1930 and by totals for earlier years in Table 34, also by causes for 1930 in Table 35.

33.—Maternal Deaths in Canada, by Age Groups, with rates per 1,000 Living Births, 1926-30.

Age Group.	Year.	Living Births.	Maternal Deaths.		Age Group.	Year.	Living Births.	Maternal Deaths.	
			No.	Rate per 1,000 Living Births.				No.	Rate per 1,000 Living Births.
Under 20 years...	1926	13,094	58	4.4	40-49 years....	1926	15,340	175	11.4
	1927	13,669	59	4.3		1927	15,329	173	11.3
	1928	14,361	77	5.4		1928	15,339	163	10.6
	1929	14,828	79	5.3		1929	14,729	180	12.2
	1930	15,341	92	6.0		1930	15,097	175	11.6
20-24 years.....	1926	54,953	247	4.5	50 years and over.....	1926	25	2	—
	1927	56,317	222	3.9		1927	39	1	—
	1928	58,139	251	4.3		1928	32	1	—
	1929	59,528	234	3.9		1929	31	—	—
	1930	62,427	253	4.1		1930	30	—	—
25-29 years.....	1926	63,345	256	4.0	Totals.....	1926	232,750	1,317	5.7
	1927	62,957	277	4.4	Totals.....	1927	234,188	1,300	5.6
	1928	63,456	260	4.1	Totals.....	1928	236,757	1,331	5.6
	1929	63,943	282	4.4	Totals.....	1929	235,415	1,341	5.7
	1930	65,722	315	4.8	Totals.....	1930	243,495	1,405	5.8
30-39 years.....	1926	85,993	579	6.7					
	1927	85,877	568	6.6					
	1928	85,430	579	6.8					
	1929	82,356	566	6.9					
	1930	84,878	570	6.7					

34.—Maternal Deaths in each Province by Age Groups, 1930, with Totals for 1926-30 and Averages for 1921-25 and 1926-30.

Age Group.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada. ¹
15-19.....	—	5	8	19	33 ³	5	6	11	5	92 ³
20-24.....	2	15	9	72	88	14	21	20	12	253
25-29.....	—	18	15	105	99	13	22	23	20	315
30-39.....	3	27	15	199	174	29	50	51	22	570
40 years and over.....	—	11	10	68	46	14	13	9	4	175
Age not stated.....	—	—	—	—	—	—	—	—	—	—
Totals, 1930.....	5	76	57	463	440	75	112	114	63	1,405
Totals, 1929.....	13	45	75	430	368	97	132	123	58	1,341
Totals, 1928.....	11	57	58	444	396	74	124	106	61	1,331
Totals, 1927.....	4	76	65	403	403	72	114	95	68	1,300
Totals, 1926.....	8	51	66	427	381	87	147	85	65	1,317
Average, 1926-30.....	8	61	64	433	398	81	126	105	63	1,339
Average, 1921-25.....	9	70	51	3	386	87	127	97	61	2
Rate per 1,000 living births, 1930.	2.9	6.7	5.4	5.5	6.2	5.2	5.1	6.5	5.8	5.8
Rate per 1,000 living births, 1929.	7.8	4.2	7.3	5.3	5.4	6.8	6.2	7.3	5.6	5.7
Rate per 1,000 living births, 1928.	6.1	5.2	5.8	5.3	5.8	5.1	5.8	6.8	5.9	5.6
Rate per 1,000 living births, 1927.	2.4	6.8	6.2	4.9	6.0	5.1	5.4	6.4	6.7	5.6
Rate per 1,000 living births, 1926.	4.6	4.6	6.4	5.2	5.6	5.9	7.1	5.9	6.5	5.7
Average, 1926-30.....	4.6	5.5	6.2	5.2	5.8	5.6	5.9	6.6	6.1	5.7
Average, 1921-25.....	4.6	5.8	4.6	2	5.4	5.2	5.9	6.3	5.9	2

¹ Yukon and Northwest Territories are not included.
² Includes one mother under 15 years.

³ Quebec not included in present registration

35.—Maternal Deaths in each Province, by Causes of Death, 1930.

NOTE.—For totals in 1929 and previous years, see Table 34.

Cause of Death.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Accidents of pregnancy—total....	-	9	3	23	28	2	8	10	6	89
(a) Abortion.....	-	3	1	8	3	1	3	6	1	26
(b) Ectopic gestation.....	-	3	1	10	17	1	2	3	3	40
(c) Others under this title.....	-	2	1	5	7	-	3	1	1	20
(d) Abortion self-induced.....	-	1	-	-	1	-	-	-	-	3
Puerperal hæmorrhage.....	2	8	3	80	39	7	16	13	11	179
Other accidents of childbirth.....	-	7	8	39	52	13	10	4	5	138
(a) Cæsarean section.....	-	3	1	5	14	4	4	-	2	33
(b) Difficult labour.....	-	1	1	8	11	3	2	2	1	29
(c) Other surgical operations and instrumental delivery	-	2	3	9	3	5	2	1	2	27
(d) Uncontrollable vomiting....	-	1	1	15	10	1	-	1	-	29
(e) Rupture of uterus in labour, etc.....	-	-	2	2	14	-	2	-	-	20
Puerperal septicæmia.....	1	21	19	170	153	28	43	48	18	501
Phlegmasia alba dolens, puerperal embolism, sudden death in puerperium.....	2	10	8	37	42	6	12	19	7	143
Puerperal albuminuria and con- vulsions.....	-	19	11	95	113	18	20	15	14	305
Following childbirth (not other- wise defined).....	-	2	5	19	13	1	3	5	2	50
Puerperal diseases of the breast..	-	-	-	-	-	-	-	-	-	-
Totals.....	5	76	57	463	440	75	112	114	63	1,405

As compared with 1929 the number of maternal deaths shows an increase of 68 or 5.1 p.c. for 1930. The provinces which show increases are: Nova Scotia, Quebec, Ontario and British Columbia, and the chief causes to which the increases are attributed are: puerperal septicæmia, puerperal albuminuria and convulsions, puerperal embolism and sudden death in puerperium.

CHAPTER VI.—IMMIGRATION.

While the great majority of French-Canadians can trace their genealogy back to ancestors who left the Old World 250 years ago or even longer, most English-speaking Canadians are comparative newcomers both to Canada and to this continent, though a considerable number of the United Empire Loyalist families had been resident in the old colonies for generations before they moved north to establish English-speaking settlements in what is now the Dominion of Canada. During the middle third of the nineteenth century a great English-speaking migration entered the province of Ontario and made it for the first time more populous than the sister province of Quebec, thus bringing about an agitation for representation by population. Thereafter immigration slackened until the dawn of the twentieth century brought another flood of settlers to the newly opened territories of the great Northwest, resulting in an increase of population between the censuses of 1901 and 1911 greater than the combined increase of the three decades from 1871 to 1901.

Immigration during the second decade of the twentieth century promised at its commencement to be even greater than during the first. In its first three years no fewer than 1,141,547 persons entered Canada for purposes of settlement. If this rate had been maintained the population of Canada in 1921 would have been in excess of ten millions instead of being less than nine millions. The Great War, which commenced for Canada on Aug. 4, 1914, dried up the sources of our immigration in Great Britain and Continental Europe, where every able-bodied man was needed for the defence of his country. Immigrant arrivals from the United Kingdom in 1918 numbered only about 3,000, as compared with 150,000 in 1913; immigrant arrivals from Continental Europe numbered less than 3,000 in 1916, as compared with approximately 135,000 in 1914. Since the war immigration to the Dominion has never approached that of the pre-war period.

Section 1.—Statistics of Immigration.

Immigration to Canada, as to other new countries, is generally greatest in "boom" periods, when capital as well as labour is leaving the older countries for the newer in order to secure the more remunerative investments generally to be found in virgin territories where the natural resources are still unexploited. In periods of depression, however, the sending abroad of both capital and labour is diminished, both preferring at such times to endure the ills which they know at home rather than take the risks of a new adventure at a distance. Indeed, the depression period which began about the close of 1929, with its accompanying unemployment and unsold surplus of farm products, raised very acutely the question whether, under such conditions, it was desirable that Canada should accept immigrants in any considerable number. Having this situation in view the Government, on Aug. 14, 1930, passed an Order in Council whereby immigration, except Britishers coming from the Mother Country or self-governing Dominions and United States citizens coming from the United States, was limited to two classes—(a) wives and unmarried children under eighteen years of age, joining family heads established in Canada and in a position to look after their dependants; (b) agriculturists with sufficient money to begin farming in Canada. This limitation applies to the whole continent of Europe as well as to many other countries. Regulations have not been changed affecting immigration from the British Isles, oversea British Dominions or the United States but a policy of no solicitation has been rigidly adopted. In harmony with this policy the Department of Immigration and Colon-

ization during 1931 closed all its Canadian Government Information Bureaus in the United States and made reductions in its representation in the British Isles.

For many years the Immigration Regulations have contained a general provision that immigrants coming to Canada must have sufficient funds to look after themselves until employment is secured. Naturally, when employment is readily available a sum would be considered sufficient which would not be accepted in periods of unemployment, and the enforcement of this regulation is an important factor in reducing immigration at the present time. There is also in effect an Order in Council (Aug. 7, 1929) prohibiting the landing in Canada of any immigrant coming under contract or agreement, expressed or implied, to perform labour or service of any kind in Canada, but this regulation does not apply to farmers, farm labourers, or houseworkers. Under the Order, the Minister of Immigration and Colonization may admit any contract labourer if satisfied that his labour or service is required in Canada.

The relationship of periods of prosperity and adversity to immigration is aptly illustrated by the statistics of Table 2, which show that during the past 34 years immigration was at its minimum in the year of deepest depression, 1897; that it steadily increased from that time until 1908; that a decline took place in the fiscal year ended Mar. 31, 1909, on account of the short depression of 1908; and that thereafter immigration steadily increased till 1913. The fiscal year ended Mar. 31, 1914, showed a decline due to the depression which occurred in the year preceding the war. In the fiscal years 1915 to 1919, political rather than economic conditions restricted immigration but, with the expansion of business at the end of the war, our immigration was more than doubled, while the depression which characterized 1921 and 1922 is reflected in the declining immigration of the fiscal years ended Mar. 31, 1922 and 1923. The improvement in business conditions in 1923 was reflected in an increase of immigration during the fiscal year ended Mar. 31, 1924, when 148,560 settlers entered Canada as compared with less than half that number in the preceding year. The fiscal years ended Mar. 31, 1925 and 1926, showed declines of 24.4 and 35.3 p.c. respectively from the 1924 level, but the fiscal years ended 1927 to 1929 showed distinct improvement in harmony with the general upward trend of business, 1929 being the best post-war year. The fiscal year ended Mar. 31, 1930, showed a slight falling off, and the restrictions on immigration imposed since August, 1930, referred to on p. 146, have been mainly instrumental in reducing the total of immigrant arrivals from 163,288 in 1930, to 88,223 for the fiscal year 1931.

The number of immigrant settlers in Canada is shown by calendar years from 1867 to 1880 in Table 1, and the number of immigrant arrivals in Canada from the United Kingdom, the United States and other countries, is given by years from 1881 in Table 2.

1.—Number of Immigrants Settling in Canada in each of the calendar years 1867-1880.

(Compiled from the Reports of the Minister of Agriculture.)

Year.	Number.	Year.	Number.
1867.....	14,666	1874.....	39,373
1868.....	12,765	1875.....	27,382
1869.....	18,630	1876.....	25,633
1870.....	24,706	1877.....	27,082
1871.....	27,773	1878.....	29,807
1872.....	36,578	1879.....	40,492
1873.....	50,050	1880.....	38,505

2.—Number of Immigrant Arrivals in Canada from the United Kingdom, the United States and other Countries, calendar or fiscal years ended 1881-1931.

NOTE.—See table on page 97 for estimate of the movement of population between the censuses of 1901 and 1921.

Calendar or Fiscal Year.	Immigrant Arrivals from—			Total. ¹	Fiscal Year.	Immigrant Arrivals from—			Total.
	United King- dom.	United States. ¹	Other Coun- tries.			United King- dom.	United States. ¹	Other Coun- tries.	
1881 ²	17,033	21,822	9,136	47,991	1906.....	86,796	57,796	44,472	189,064
1882 ²	41,283	58,372	12,803	112,458	1907 ⁴	55,791	34,659	34,217	124,667
1883 ²	45,429	78,508	9,677	133,624	1908.....	120,182	58,312	83,975	262,469
1884 ²	31,787	65,886	6,151	103,824	1909.....	52,901	59,832	34,175	146,908
1885 ²	18,591	57,506	3,072	79,169	1910.....	59,790	103,798	45,206	208,794
1886 ²	23,507	40,650	4,995	69,152	1911.....	123,013	121,451	66,620	311,084
1887 ²	31,104	41,046	12,376	84,526	1912.....	138,121	133,710	82,406	354,237
1888 ²	30,852	44,952	12,962	88,766	1913.....	150,542	139,009	112,881	402,432
1889 ²	19,384	67,896	4,320	91,600	1914.....	142,622	107,530	134,726	384,878
1890 ²	21,793	50,336	2,938	75,067	1915.....	43,276	59,779	41,734	144,789
1891 ²	22,042	52,516	7,607	82,165	1916.....	8,664	36,937	2,936	48,537
1892 ²	22,636	—	8,360	30,996	1917.....	8,282	61,389	5,703	75,374
1893 ²	20,071	—	9,562	29,633	1918.....	3,178	71,314	4,582	79,074
1894 ²	16,004	—	4,825	20,829	1919.....	9,914	40,715	7,073	57,702
1895 ²	14,956	—	3,834	18,790	1920.....	59,603	49,656	8,077	117,336
1896 ²	12,384	—	4,451	16,835	1921.....	74,262	48,059	26,156	148,477
1897 ²	11,383	2,412	7,921	21,716	1922.....	39,020	29,345	21,634	89,999
1898 ²	11,173	9,119	11,608	31,900	1923.....	34,508	22,007	16,372	72,887
1899 ²	10,660	11,945	21,938	44,543	1924.....	72,919	20,521	65,120	148,560
1900 ³	5,141	8,543	10,211	23,895	1925.....	53,178	15,818	42,366	111,362
1901.....	11,810	17,987	19,352	49,149	1926.....	37,030	18,778	40,256	96,064
1902.....	17,259	26,388	23,732	67,379	1927.....	49,784	21,025	73,182	143,991
1903.....	41,792	49,473	37,099	128,364	1928.....	50,872	25,007	75,718	151,597
1904.....	50,374	45,171	34,786	130,331	1929.....	58,880	30,560	78,282	167,722
1905.....	65,359	43,543	37,364	146,266	1930.....	64,082	30,727	68,476	163,285
					1931.....	27,584	24,280	36,359	88,223

¹The figures of immigration from the United States for the years 1881 to 1891 do not distinguish between immigrants and non-immigrants. As the U.S.-born population of Canada, according to the census, increased only from 77,753 to 80,915 between 1881 and 1891, it would appear that the number of permanent immigrants from the United States in these years must have been comparatively small. No statistics of immigrants from the U.S. were collected for the years 1892 to 1896.

²Calendar year. ³Six months, January to June, inclusive. ⁴Nine months ended March 31.

Sex and Conjugal Condition of Immigrants.—As shown by Table 3, the 88,223 immigrants who came to Canada in the fiscal year ended Mar. 31, 1931, included 48,170 males and 40,053 females, males constituting 54.6 p.c. of the total. In other words, 11 male immigrants came to Canada for every 9 females, and the discrepancy is greater when persons under 18 are left out of account. This disparity of the sexes among our immigrants is a phenomenon of long standing and has been more pronounced in past years (Table 4); taken together with the comparatively small difference between the numbers of the sexes in our total population it goes to indicate that a good deal of our male immigration is of a rather transient character.

3.—Sex and Conjugal Condition of Immigrants into Canada, by Age Groups, fiscal year ended Mar. 31, 1931.

Age Group by Years of Age.	Males.					Females.				
	Single.	Married.	Widow- ed.	Di- vorced.	Total.	Single.	Married.	Widow- ed.	Di- vorced.	Total.
0-14.....	10,451	—	—	—	10,451	9,585	—	—	—	9,585
15-19.....	6,011	35	—	—	6,046	3,475	385	1	—	3,861
20-24.....	7,494	1,021	3	1	8,518	4,856	2,568	20	19	7,463
25-29.....	4,935	3,374	29	21	8,359	2,778	3,748	57	28	6,611
30-39.....	2,342	5,936	116	65	8,459	1,641	5,153	238	68	7,106
40-49.....	581	3,062	134	45	3,822	413	2,164	414	42	3,033
50 and over.....	262	1,815	414	23	2,514	208	1,175	991	26	2,400
Totals.....	39,076	15,243	696	155	48,170	22,956	15,193	1,721	183	40,053

4.—Sex Distribution of Immigrants as Adult Males, Adult Females and Children, fiscal years ended Mar. 31, 1911-31.

Fiscal Year.	Adult Males.	Adult Females.	Children under 14.	Total.	Fiscal Year.	Adult Males.	Adult Females.	Children under 14.	Total.
1911.....	185,198	71,038	54,848	311,084	1921.....	70,898	49,377	28,292	148,477
1912.....	211,266	82,922	60,049	354,237	1922.....	38,597	32,042	15,360	89,999
1913.....	238,779	95,168	68,485	402,432	1923.....	33,286	24,756	14,845	72,887
1914.....	224,348	94,028	66,502	384,878	1924.....	87,628	38,763	22,169	148,560
1915.....	74,143	41,990	28,656	144,789	1925.....	55,478	34,294	21,590	111,362
1916.....	23,139	15,478	9,920	48,537	1926.....	46,963	26,611	22,490 ¹	96,064
1917.....	43,074	19,537	12,763	75,374	1927.....	80,512	33,277	30,202 ¹	143,991
1918.....	47,497	17,775	13,802	79,074	1928.....	82,204	36,978	32,415 ¹	151,597
1919.....	25,842	13,594	13,266	57,702	1929.....	94,861	38,937	33,924 ¹	167,722
1920.....	40,872	50,006	26,458	117,336	1930.....	74,062	47,534	41,692 ¹	163,288
					1931.....	34,317	28,777	25,129 ¹	88,223

¹"Children" since 1926 includes those under 18 years of age.

Racial Origins of Immigrants.—Where there is any considerable immigration into a democratic country, the racial and linguistic composition of the immigrants is of great importance. Canadians generally prefer that settlers should be of a readily assimilable type, already identified by race or language with one or other of the two great races now inhabiting this country and prepared for the assumption of the duties of democratic Canadian citizenship. Since the French are not to any great extent an emigrating people, this means in practice that the great bulk of the preferable settlers are those who speak the English language—those coming from the United Kingdom or the United States. Next in order of readiness of assimilation are the Scandinavians, Dutch and Germans, who readily learn English and are already acquainted with the working of democratic institutions. Settlers from Southern and Eastern Europe, however desirable from a purely economic point of view, are less readily assimilated, and the Canadianizing of the people who have come to Canada from these regions in the present century is a problem both in the agricultural Prairie Provinces and in the cities of the East. Less assimilable still, according to the general opinion of Canadians, are those who come to Canada from the Orient. On the whole the great bulk of Canadian immigration of the past generation has been drawn from the English-speaking countries and from those Continental European countries where the population is ethnically nearly related to the British, though for some years there was an increasing immigration of Slavs.

The racial origins of the immigrants who arrived in Canada in the fiscal years ended Mar. 31, 1930 and 1931 are shown in Table 5.

5.—Racial Origins of Immigrants into Canada, arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1930 and 1931.

Racial Origin.	1930.			1931.		
	Via Ocean Ports.	From U.S.	Total.	Via Ocean Ports.	From U.S.	Total.
British Races—						
English.....	32,278	9,379	41,657	14,662	7,498	22,160
Irish.....	10,159	3,762	13,921	4,233	2,904	7,137
Scotch.....	18,640	3,638	22,278	7,872	2,917	10,789
Welsh.....	3,005	332	3,337	817	231	1,048
Totals, British.....	64,082	17,111	81,193	27,584	13,550	41,134

5.—Racial Origins of Immigrants into Canada, arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1930 and 1931—concluded.

Racial Origin.	1930.			1931.		
	Via Ocean Ports.	From U.S.	Total.	Via Ocean Ports.	From U. S.	Total.
Continental European						
Races—						
Albanian.....	26	1	27	25	1	26
Austrian.....	437	75	512	1	1	2
Belgian.....	696	92	788	255	105	360
Bohemian.....	20	81	101	11	57	68
Bulgarian.....	296	10	306	295	—	295
Croatian.....	771	11	782	482	2	484
Czech.....	434	14	448	225	8	233
Dalmatian.....	7	—	7	—	—	—
Dutch.....	1,755	703	2,458	344	444	788
Estonian.....	117	2	119	63	2	65
Finnish.....	4,565	82	4,647	2,297	57	2,354
French.....	697	4,419	5,116	347	4,391	4,738
German.....	14,281	3,733	18,014	7,840	2,741	10,581
Greek.....	634	48	682	388	48	436
Italian.....	1,277	236	1,513	1,007	228	1,235
Jewish.....	3,544	620	4,164	2,908	513	3,421
Lettish.....	70	8	78	28	1	29
Lithuanian.....	964	22	986	466	11	477
Magyar.....	5,688	99	5,787	2,401	71	2,472
Maltese.....	40	1	41	13	6	19
Mexican.....	—	—	—	—	—	—
Montenegrin.....	—	2	2	3	—	3
Moravian.....	23	—	23	2	—	2
Polish.....	6,610	227	6,837	3,997	226	4,223
Portuguese.....	13	11	24	5	10	15
Roumanian.....	383	62	445	179	44	223
Russian.....	765	173	938	879	97	976
Ruthenian.....	11,291	41	11,332	6,413	78	6,491
Scandinavian—						
Danish.....	2,685	319	3,004	820	184	1,004
Icelandic.....	6	28	34	25	17	42
Norwegian.....	2,256	1,149	3,405	740	645	1,385
Swedish.....	2,918	736	3,654	730	366	1,096
Serbian.....	375	29	404	140	18	158
Slovak.....	2,879	46	2,925	1,657	32	1,689
Spanish.....	26	37	63	8	26	34
Spanish American.....	—	4	4	1	1	2
Swiss.....	473	117	590	211	83	294
Turkish.....	6	1	7	7	—	7
Yugoslav.....	921	35	956	364	27	391
Other races.....	—	—	—	—	—	—
Totals, Continental European Races.....	67,949	13,274	81,223	35,876	10,540	46,416
Non-European Races—						
American Indian.....	—	22	22	—	8	8
Arabian.....	7	2	9	2	—	2
Armenian.....	14	16	30	21	1	22
Chinese.....	—	—	—	—	—	—
East Indian races.....	58	—	58	80	—	80
Japanese.....	194	—	194	204	1	205
Negro.....	195	251	446	120	158	278
Persian.....	1	—	1	2	—	2
Syrian.....	61	51	112	54	22	76
Totals, Non-European Races.....	530	342	872	483	190	673
Grand Totals.....	132,561	30,727	163,288	63,943	24,280	88,223

¹"Austrian" included with "German" for the year 1931.

Languages of Immigrants.—The languages of immigrants 10 years old and over, arriving *via* ocean ports and from the United States, are shown for the fiscal years ended Mar. 31, 1930 and 1931, in Table 6. English-speaking immigrants constituted 56 p.c. of the total in 1931, German-speaking immigrants 9.3 p.c., and Polish-speaking immigrants were third with 7 p.c.

6.—Languages of Immigrants Ten Years Old and Over, arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1930 and 1931.

Language.	1930.			1931.		
	Via Ocean Ports.	From U.S.	Total.	Via Ocean Ports.	From U.S.	Total.
English.....	55,441	22,459	77,900	24,216	16,064	40,280
Welsh.....	—	—	—	—	—	—
French.....	841	1,337	2,178	407	1,269	1,676
German.....	12,927	253	13,180	6,481	204	6,685
Norwegian.....	2,001	83	2,084	643	35	678
Swedish.....	2,883	86	2,969	694	35	729
Danish.....	2,358	54	2,412	721	26	747
Icelandic.....	7	1	8	19	1	20
Flemish.....	484	29	513	160	46	206
Walloon.....	—	—	—	—	—	—
Dutch.....	907	23	930	269	22	291
Finnish.....	4,173	26	4,199	2,089	19	2,108
Estonian.....	93	2	95	51	2	53
Lettish.....	50	2	52	27	—	27
Lithuanian.....	833	3	836	432	4	436
Russian.....	1,345	43	1,388	940	21	961
Yiddish.....	200	19	219	—	—	—
Hebrew.....	1,394	100	1,494	1,231	113	1,344
Ruthenian.....	—	—	—	—	—	—
Russiaki.....	7,139	8	7,147	3,820	18	3,838
Ukrainian.....	—	—	—	—	—	—
Polish.....	7,435	46	7,481	5,063	62	5,125
Roumanian.....	368	10	378	189	13	202
Slovenian.....	187	1	188	83	1	84
Czech (Bohemian).....	2,657	21	2,678	1,714	13	1,727
Croat (Serbian).....	1,436	16	1,452	727	13	740
Hungarian (Magyar).....	4,567	35	4,602	1,883	26	1,909
Korean.....	—	—	—	—	—	—
Italian.....	973	64	1,037	788	73	861
Spanish.....	13	16	29	14	5	19
Portuguese.....	1	1	2	1	—	1
Greek.....	590	25	615	352	23	375
Albanian.....	18	1	19	19	1	20
Turkish.....	4	—	4	5	—	5
Bulgarian.....	304	2	306	301	—	301
Chinese.....	—	—	—	—	—	—
Japanese.....	177	—	177	184	—	184
East Indian.....	40	—	40	70	—	70
Armenian (Armaic).....	11	3	14	23	—	23
Syrian (Arabian).....	51	13	64	37	7	44
Totals.....	111,888	24,782	136,670	53,653	18,116	71,769

Nationalities of Immigrants.—In the latest fiscal year, ended Mar. 31, 1931, British subjects immigrating to Canada numbered 31,082 and American citizens 20,765, or together nearly 59 p.c. of the total number of immigrants shown in Table 7.

It has been pointed out on p. 148 that male immigrants are likely to include a large number of transients, and that the immigration of females is more likely to represent a permanent addition to the population of the country and the national or racial distribution of that addition. Out of 40,053 females immigrating to Canada in the fiscal year ended Mar. 31, 1931, 14,184 or 35 p.c. were British subjects and 9,431 or 24 p.c. American citizens. Thus nearly 59 p.c. were British or Americans by nationality. The remainder were practically all Continental Europeans, among whom Poles, with 6,962 or 17 p.c. of the whole, were the largest single group.

**7.—Nationalities of Immigrants arriving via Ocean Ports and from the United States,
fiscal years ended Mar. 31, 1930 and 1931.**

Nationality.	1930.			1931.		
	Via Ocean Ports.	From U.S.	Total.	Via Ocean Ports.	From U.S.	Total.
British.....	64,962	3,121	68,083	28,144	2,938	31,082
United States.....	96	26,751	26,847	42	20,723	20,765
Mexican.....	12	17	29	2	8	10
Ecuadorian.....	1	—	1	—	1	1
Argentinian.....	16	2	18	15	3	18
Brazilian.....	—	1	1	1	1	2
Chilian.....	1	4	5	1	—	1
Colombian.....	1	—	1	1	4	5
Paraguayan.....	1	2	3	—	—	—
Peruvian.....	1	4	5	3	1	4
Uruguayan.....	2	—	2	1	—	1
Cuban.....	5	—	5	6	—	6
Porto Rican.....	—	1	1	1	—	1
Atlantic and Pacific Is. (not British).....	3	—	3	—	—	—
Austrian.....	1,028	25	1,053	398	30	428
Belgian.....	794	23	817	290	45	335
Bulgarian.....	291	4	295	299	—	299
Czechoslovakian.....	4,327	17	4,344	2,649	15	2,664
Finnish.....	5,421	21	5,442	2,551	12	2,563
French.....	531	68	599	253	29	282
German.....	5,721	132	5,853	3,548	85	3,633
Greek.....	628	3	631	380	3	383
Dutch.....	1,144	27	1,171	321	20	341
Hungarian.....	4,914	13	4,927	2,132	6	2,138
Italian.....	1,192	28	1,220	955	19	974
Yugoslav.....	3,854	10	3,864	1,676	5	1,681
Polish.....	21,315	44	21,359	13,810	76	13,886
Roumanian.....	5,262	18	5,280	2,093	36	2,129
Russian.....	1,378	92	1,470	886	63	949
Danish.....	2,704	66	2,770	837	37	874
Icelandic.....	9	2	11	26	7	33
Norwegian.....	2,240	85	2,325	723	42	765
Swedish.....	2,020	88	2,108	469	40	509
Swiss.....	675	28	703	292	19	311
Ukrainian.....	4	4	8	4	2	6
Albanian.....	28	1	29	25	—	25
Estonian.....	145	2	147	81	3	84
Latvian.....	207	5	212	102	1	103
Lithuanian.....	1,343	3	1,346	650	—	650
Portuguese.....	2	—	2	—	—	—
Spanish.....	9	8	17	1	1	2
Luxemburger.....	19	—	19	14	—	14
Arabian.....	33	—	33	32	—	32
Armenian.....	1	—	1	5	—	5
Japanese.....	148	—	148	151	—	151
Persian.....	1	—	1	1	—	1
Syrian.....	56	7	63	45	5	50
Turkish.....	16	—	16	8	—	8
Danziger.....	—	—	—	14	—	14
Totals.....	132,561	30,727	163,288	63,943	24,280	88,223

Countries of Birth of Immigrants.—In Table 8 will be found the countries of birth of the immigrants into Canada in the latest two fiscal years. The figures show that the United States was the birthplace of more of our 1931 immigrants than any other single country, with 18,639. England came second with 14,768, Poland third with 14,035, Scotland fourth with 8,620 and Ireland fifth with 4,359, these last two countries contributing a high percentage in view of their comparatively small populations. Of the immigrants arriving in 1931, 3,456 were born in Germany, 2,559 in Finland, 2,170 in Roumania, 2,155 in Hungary, 2,614 in Czechoslovakia and 1,067 in Wales. The aggregate of settlers born in the four Scandinavian countries was 2,243.

8.—Countries of Birth of Immigrants arriving via Ocean Ports and from the United States, fiscal years ended Mar. 31, 1930 and 1931.

Country of Birth.	1930.			1931.		
	Via Ocean Ports.	From U.S.	Total.	Via Ocean Ports.	From U.S.	Total.
Canada.....	38	1,379	1,417	12	1,468	1,480
United States.....	426	23,889	24,315	209	18,430	18,639
England.....	29,377	1,732	31,109	13,174	1,594	14,768
Ireland (Free State).....	2,584	216	2,800	1,299	148	1,447
Ireland (Northern).....	6,834	165	6,999	2,758	154	2,912
Scotland.....	18,832	920	19,752	7,747	873	8,620
Wales.....	3,710	74	3,784	989	78	1,067
Lesser British Isles.....	193	13	206	67	12	79
Newfoundland.....	1,661	73	1,734	755	68	823
St. Pierre and Miquelon.....	9	1	10	4	—	4
Mexico.....	22	20	42	7	8	15
Central America.....	8	—	8	15	2	17
Honduras (Br.).....	1	3	4	—	—	—
Argentina.....	24	5	29	16	5	21
Brazil.....	7	1	8	4	1	5
Chile.....	9	7	16	13	2	15
Guiana, British.....	37	8	45	36	3	39
Other South America.....	18	13	31	13	7	20
West Indies (Br.).....	277	25	302	167	17	184
West Indies (not Br.).....	12	11	23	11	10	21
Austria.....	1,003	86	1,089	412	78	490
Belgium.....	797	62	859	301	73	374
Bulgaria.....	231	7	238	146	—	146
Czechoslovakia.....	4,302	34	4,336	2,586	28	2,614
Finland.....	5,368	47	5,415	2,533	26	2,559
France.....	568	112	680	295	46	341
Germany.....	5,285	271	5,556	3,288	168	3,456
Greece.....	673	32	705	513	24	537
Holland.....	1,114	53	1,167	300	30	330
Hungary.....	4,914	62	4,976	2,128	27	2,155
Italy.....	1,243	106	1,349	986	65	1,051
Yugoslavia.....	3,870	27	3,897	1,683	16	1,699
Poland.....	21,478	146	21,624	13,907	128	14,035
Roumania.....	5,227	46	5,273	2,114	56	2,170
Russia.....	1,668	296	1,961	1,156	179	1,335
Denmark.....	2,682	115	2,797	818	62	880
Iceland.....	11	5	16	27	8	35
Norway.....	2,248	238	2,486	725	117	842
Sweden.....	1,998	195	2,193	395	91	486
Switzerland.....	601	43	644	283	32	315
Ukraine.....	152	5	157	41	1	42
Albania.....	29	1	30	24	1	25
Estonia.....	135	1	136	81	2	83
Latvia.....	182	9	191	91	2	93
Lithuania.....	1,317	8	1,325	649	6	655
Malta.....	46	1	47	17	7	24
Portugal.....	2	2	4	1	—	1
Spain.....	16	12	28	6	2	8
Other European countries, including Luxemburg.....	31	2	33	43	3	46
Australia.....	231	39	270	196	27	223
New Zealand.....	157	18	175	101	19	120
Africa (Br.).....	123	19	142	97	20	117
Africa (not Br.).....	30	1	31	17	3	20
Other Asia.....	56	4	60	29	1	30
Armenia.....	—	1	1	6	—	6
China.....	57	9	66	39	5	44
India (Br.).....	256	6	262	239	18	257
Japan.....	202	3	205	216	5	221
Korea.....	1	1	2	—	—	—
Persia.....	3	—	3	3	—	3
Syria.....	54	19	73	44	9	53
Turkey.....	51	15	66	55	4	59
Other countries (Br.).....	49	4	53	35	4	39
Other countries (not Br.).....	24	9	33	21	6	27
Born at sea.....	—	—	—	—	1	1
Totals.....	132,561	30,727	163,288	63,943	24,280	88,223

Ports of Arrival of Immigrants.—Throughout the greater part of our history, Quebec has been the port at which the greatest number of our immigrants

have landed. In the past few years, however, there has been a great increase in the percentage of immigrants arriving at the port of Halifax. This would appear to be due to increasing immigration in the early spring months before the St. Lawrence is open for traffic. Figures for recent years are given in Table 9.

9.—Immigrants arriving in Canada, by Chief Ports of Arrival, fiscal years ended Mar. 31, 1925-31.

Port.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
Quebec.....	59,572	40,963	63,792	64,392	74,653	70,688	34,114
Saint John.....	9,501	12,245	16,889	14,176	13,046	14,631	5,793
Halifax.....	21,965	20,490	37,677	43,072	44,936	42,584	20,809
North Sydney.....	1,085	435	712	832	1,173	1,176	538
Sydney.....	72	5	89	7	15	17	15
Montreal.....	200	144	192	272	340	516	218
Vancouver.....	1,144	1,333	1,220	1,386	1,115	1,038	791
Victoria.....	459	361	513	475	422	229	232
New York.....	1,452	1,163	1,402	1,641	1,397	1,607	1,386
Boston.....	51	26	47	218	16	23	6
Other ports.....	43	121	433	119	49	52	41
From the United States.....	15,818	18,778	21,025	25,007	30,560	30,727	24,280
Totals.....	111,362	96,064	143,991	151,597	167,722	163,288	88,223

Destinations of Immigrants.—The immediate destinations of the immigrants arriving in Canada are given for the period from 1901 to 1931 in Table 10, which may be compared with the census tables on pp. 91 and 92 showing the increase of population in the decades between 1901 and 1931.

While immigration to the Maritime Provinces during the first thirty years of the twentieth century was comparatively small, totalling 204,981, that to Quebec and Ontario was very large. From 1905 to 1928 Ontario received a larger number of immigrants annually than any other province of the Dominion, while Manitoba was usually second in this respect. In 1929 immigration to Manitoba exceeded that to Ontario by 10,000 persons, but in 1930 and 1931 the positions were again reversed. The immigration to Eastern Canada (Maritime Provinces, Quebec and Ontario) has almost equalled that to Western Canada (Manitoba, Saskatchewan, Alberta and British Columbia) in the 31-year period.

10.—Destinations of Immigrants Into Canada, by Provinces, fiscal years ended June 30, 1901-06, and Mar. 31, 1907-31.

Fiscal Year.	Maritime Prov- inces.	Quebec.	Ontario.	Mani- toba.	Sask- atche- wan.	Alberta.	British Colum- bia and Yukon Terr'y.	Not Shown.	Total.
1901.....	2,144	10,216	6,208	11,254	14,160		2,600	2,567	49,149
1902.....	2,312	8,817	9,798	17,422	22,199		3,483	3,348	67,379
1903.....	5,821	17,040	14,854	39,535	43,898		5,378	1,838	128,364
1904.....	5,448	20,222	21,266	34,911	40,397		6,994	1,093	130,331
1905.....	4,128	23,666	35,811	35,387	39,289		6,008	1,977	146,266
1906.....	6,381	25,212	52,746	35,648	28,728	26,177	12,406	1,766	189,064
1907 (9 mos.).....	6,510	18,319	32,654	20,273	15,307	17,559	13,650	395	124,667
1908.....	10,360	44,157	75,133	39,789	30,590	31,477	30,768	195	262,469
1909.....	6,517	19,733	29,265	19,702	22,146	27,651	21,862	32	146,908
1910.....	10,644	28,524	46,129	21,049	29,218	42,509	30,721	-	208,794
1911.....	13,236	42,914	80,035	34,653	40,763	44,782	54,701	-	311,084
1912.....	15,973	50,602	100,227	43,477	46,158	45,957	51,843	-	354,237
1913.....	19,806	64,835	122,798	43,813	45,147	48,073	57,960	-	402,432
1914.....	16,730	80,368	123,792	41,640	40,999	43,741	37,608	-	384,878
1915.....	11,104	31,053	44,873	13,196	16,173	18,263	10,127	-	144,789
1916.....	5,981	8,274	14,743	3,487	6,001	7,215	2,836	-	48,537
1917.....	5,710	10,930	26,078	5,247	9,874	12,418	5,117	-	75,374
1918.....	5,247	9,059	23,754	6,252	12,382	16,821	5,559	-	79,074

19.—Destinations of Immigrants into Canada, by Provinces, fiscal years ended June 30, 1901-06, and Mar. 31, 1907-31.—concluded.

Fiscal Year.	Maritime Prov- inces.	Quebec.	Ontario.	Mani- toba.	Sask- atche- wan.	Alberta.	British Colum- bia and Yukon Terr'y.	Not Shown.	Total.
1919.....	3,860	6,772	13,826	4,862	8,552	11,640	8,190	—	57,702
1920.....	5,554	13,078	39,344	11,387	14,287	20,000	13,686	—	117,336
1921.....	6,353	21,100	62,572	12,649	13,392	17,781	14,630	—	148,477
1922.....	3,222	13,724	34,590	8,904	9,894	11,825	7,840	—	89,999
1923.....	3,298	9,343	30,444	6,037	8,186	8,798	6,781	—	72,887
1924.....	7,940	19,979	65,280	21,451	13,200	10,430	10,280	—	148,560
1925.....	3,153	16,279	45,912	11,772	14,041	10,952	9,253	—	111,362
1926.....	1,670	11,367	29,293	19,079	13,816	12,540	8,212	87	96,064
1927.....	3,125	16,642	40,604	36,739	20,085	16,367	10,410	16	143,991 ¹
1928.....	3,741	18,469	45,052	43,596	15,331	15,473	9,891	5	151,597 ¹
1929.....	4,063	18,659	47,656	57,651	14,789	16,243	8,652	8	167,722 ¹
1930.....	4,950	23,917	59,974	39,132	11,003	14,970	9,333	1	163,288 ¹
1931.....	3,704	16,290	33,652	17,524	5,057	6,441	5,551	1	88,223 ¹
Totals.....	208,685	719,560	1,408,363	757,536	1,235,640	582,330	13,239	4,811,004	

¹ Includes immigrants destined for the Northwest Territories: 3 in 1927, 39 in 1928, 1 in 1929, 8 in 1930 and 3 in 1931.

Occupations of Immigrant Arrivals.—The settlers most universally acceptable to Canadians are those who settle on the land or those females who enter domestic service. In Table 11 will be found statistics of the occupations of immigrants arriving in Canada during the fiscal years ended Mar. 31, 1930 and 1931.

11.—Occupations and Destinations of Immigrants arriving in Canada, fiscal years ended Mar. 31, 1930 and 1931.

Occupation.	1930.			1931.		
	Via Ocean Ports.	From the United States.	Total.	Via Ocean Ports.	From the United States.	Total.
Farmers and Farm Labourers—						
Men.....	41,361	4,368	45,729	16,702	3,347	20,049
Women.....	6,264	1,151	7,415	2,879	1,026	3,905
Children.....	14,257	1,650	15,907	6,612	1,491	8,103
General Labourers—						
Men.....	6,617	2,270	8,887	2,649	699	3,348
Women.....	1,213	357	1,570	517	186	703
Children.....	2,244	346	2,590	1,053	194	1,247
Mechanics—						
Men.....	6,259	3,979	10,238	3,016	2,048	5,064
Women.....	1,888	901	2,789	1,017	625	1,642
Children.....	1,542	637	2,179	754	411	1,165
Clerks, Traders, etc.—						
Men.....	3,085	2,373	5,458	1,538	1,799	3,337
Women.....	1,414	968	2,382	868	795	1,663
Children.....	745	520	1,265	462	428	890
Miners—						
Men.....	513	155	668	136	47	183
Women.....	94	20	114	14	5	19
Children.....	137	11	148	15	6	21
Domestics—						
Domestics 18 years and over.....	18,114	634	18,748	9,229	594	9,823
“ under 18 years.....				971	42	1,013
Not Classified—						
Men.....	1,585	1,497	3,082	954	1,382	2,336
Women.....	12,274	4,016	16,290	7,228	3,794	11,022
Children.....	12,955	4,874	17,829	7,329	5,361	12,690
Totals—						
Men.....	59,420	14,642	74,062	24,995	9,322	34,317
Women.....	41,261	8,047	49,308	21,752	7,025	28,777
Children.....	31,880	8,038	39,918	17,196	7,933	25,129
Totals.....	132,561	30,727	163,288	63,943	24,280	88,223

¹ Includes domestics under 18 years of age.

11.—Occupations and Destinations of Immigrants arriving in Canada, fiscal years ended Mar. 31, 1930 and 1931—concluded.

Occupation.	1930.			1931.		
	Via Ocean Ports.	From the United States.	Total.	Via Ocean Ports.	From the United States.	Total.
Destinations—						
Maritime Provinces.....	3,736	1,214	4,950	2,209	1,495	3,704
Quebec.....	18,808	5,109	23,917	11,571	4,719	16,290
Ontario.....	46,933	13,041	59,974	22,330	11,322	33,652
Manitoba.....	38,045	1,087	39,132	16,670	854	17,524
Saskatchewan.....	8,347	2,656	11,003	3,407	1,650	5,057
Alberta.....	10,193	4,777	14,970	3,965	2,476	6,441
British Columbia.....	6,482	2,770	9,252	3,786	1,754	5,540
Yukon and N.W.T.....	17	72	89	4	10	14
Not given.....	-	1	1	1	-	1

Prohibited Immigrants.—The following is a summary of the classes whose admission to Canada is prohibited under the existing regulations. These regulations, however, do not apply to Canadian citizens or persons having Canadian domicile:—

(1) Imbeciles, feeble-minded persons, epileptics, insane persons, persons of constitutional psychopathic inferiority, persons suffering from chronic alcoholism and those mentally defective to such a degree as to affect their ability to earn a living.

(2) Persons afflicted with tuberculosis or with any loathsome, contagious or infectious disease or a disease which may be dangerous to public health; immigrants who are dumb, blind or otherwise physically defective.

(3) Prostitutes and women and girls coming to Canada for any immoral purpose, pimps, procurers and persons who have been convicted of any crime involving moral turpitude.

(4) Professional beggars or vagrants, charity-aided immigrants and persons who are likely to become public charges.

(5) Anarchists, persons who disbelieve in or are opposed to organized government or who belong to any organization teaching disbelief in or opposition to organized government, persons who have been guilty of espionage or high treason and persons who have been deported from Canada.

(6) Persons over fifteen years of age unable to read. The literacy test, however, does not apply to a father or grandfather over 55 years of age, or to a wife, mother, grandmother or unmarried daughter or widowed daughter.

The Immigration Act provides for the rejection and deportation of immigrants belonging to the prohibited classes, and also for the deportation of those who become undesirables within five years after legal entry.

The operation of the above regulations is illustrated in Tables 12 and 13, which give the numbers of immigrants rejected or deported after admission, the causes of such rejection or deportation, and the nationalities of those deported, for each of the 10 fiscal years ended 1921 to 1931, together with the totals for the 18 fiscal years 1903-20 and the 29 fiscal years from 1903 to 1931 inclusive.

⁴See also page 146.

12.—Rejections of Immigrants upon Arrival at Ocean Ports, by Principal Causes and Nationalities, fiscal years ended 1903-31, with Totals 1903-20 and 1903-31.

Item.	1903 to 1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	Total.
Principal Causes—													
Medical causes.	4,995	99	60	37	130	83	40	95	104	94	78	39	5,854
Civil causes....	8,226	854	1,023	595	862	948	226	594	215	266	243	444	14,496
Totals...	13,221	953	1,083	632	992	1,031	266	689	319	360	321	483	20,350
by Nationalities—													
British.....	1,774	193	153	98	187	199	109	209	150	115	160	251	3,637
United States..	8,287	11	7	4	6	11	5	2	2	—	8	6	350
Other countries	11,160	749	923	530	799	821	157	475	167	245	153	226	16,363

13.—Deportations of Immigrants after Admission, by Principal Causes and by Nationalities, fiscal years ended 1903-31, with Totals 1903-20 and 1903-31.

Item.	1903 to 1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	Total.
Principal Causes—													
Medical causes.	3,781	133	313	282	649	420	410	470	519	650	600	789	9,016
Public charges.	5,505	236	950	679	775	543	506	354	430	444	2,106	2,245	14,773
Criminality....	3,313	586	630	543	511	520	453	447	426	441	591	868	9,329
Other civil causes.....	1,090	52	105	76	93	58	189	149	257	194	107	200	2,570
Accompanying deported persons.....	270	37	48	52	78	145	158	165	254	235	559	274	2,275
Totals...	13,959	1,044	2,046	1,632	2,106	1,686	1,716	1,585	1,886	1,964	3,963	4,376	37,963
by Nationalities—													
British.....	7,294	295	1,107	888	1,377	985	899	808	1,047	1,083	2,983	3,099	21,865
United States..	3,771	616	725	520	417	321	330	351	297	294	228	279	8,149
Other countries	2,894	133	214	224	312	380	487	426	542	587	752	998	7,949

Juvenile Immigrants.—Among the most generally acceptable immigrant arrivals are the juveniles of both sexes, many of whom have been trained by highly accredited British organizations for Canadian life before coming to Canada, the boys being taught the lighter branches of farm work, and the girls instructed in domestic occupations. On arrival in Canada the boys are placed on farms, while the girls are placed either in town or country, but the organizations remain the guardians of the children until they have reached maturity, and in addition the children are subject to efficient and recurrent government inspection until they reach their nineteenth year. This inspection is under the control of the Supervisor of Juvenile Immigration.

Under the British Empire Settlement Agreement the term "children" was applied to boys from 14 to 19 years of age and girls from 14 to 17 migrating to Canada under provincial or approved society auspices. These organizations were assisted by the Oversea Settlement Agreement, which provided free transportation for the boys and girls from the British Isles migrating to Canada under their auspices. On September 23, 1931, the societies concerned were notified that the Dominion Government had decided to withdraw from any further assistance of that nature.

The number of juveniles immigrated to Canada in each year since 1901 is given in Table 14.

14.—British Juvenile Immigrants, fiscal years ended 1901-31.

NOTE.—Juvenile immigrants are of course included in the total number of immigrants recorded elsewhere.

Fiscal Year.	Juvenile Immigrants.	Fiscal Year.	Juvenile Immigrants.
1901.....	977	1916.....	1
1902.....	1,540	1917.....	1
1903.....	1,979	1918.....	2
1904.....	2,212	1919.....	1
1905.....	2,814	1920.....	2
1906.....	3,258	1921.....	1
1907 ¹	1,455	1922.....	1
1908.....	2,375	1923.....	1
1909.....	2,424	1924.....	2
1910.....	2,422	1925.....	2
1911.....	2,524	1926.....	1
1912.....	2,689	1927.....	1
1913.....	2,642	1928.....	2
1914.....	2,318	1929.....	3
1915.....	1,899	1930.....	4
		1931.....	2

¹Nine months.

Oriental Immigration.—The immigration to Canada of the Asiatic race, able because of their low standard of living to underbid the white man in selling his labour, is fundamentally an economic rather than a racial problem, affecting most of all those parts of the country which are nearest to the Orient and the class which feel their economic position threatened. A record of Oriental immigration since the commencement of the century is given in Table 15.

15.—Record of Oriental Immigrants, fiscal years ended 1901-31.

Fiscal Year.	Chinese.	Japanese.	East Indians.	Total.	Fiscal Year.	Chinese.	Japanese.	East Indians.	Total.
1901.....	2,544	6	—	2,550	1916.....	88	401	1	489
1902.....	3,587	—	—	3,587	1917.....	393	648	—	1,041
1903.....	5,329	—	—	5,329	1918.....	766	883	—	1,649
1904.....	4,847	—	—	4,847	1919.....	4,333	1,178	—	5,511
1905.....	77	354	45	476	1920.....	544	711	—	1,255
1906.....	168	1,922	387	2,477	1921.....	2,435	532	10	2,977
1907 ¹	291	2,042	2,124	4,457	1922.....	1,746	471	13	2,230
1908.....	2,234	7,601	2,623	12,458	1923.....	711	369	21	1,101
1909.....	2,106	495	6	2,607	1924.....	674	448	40	1,162
1910.....	2,302	271	10	2,583	1925.....	—	501	46	547
1911.....	5,320	437	5	5,762	1926.....	—	421	62	483
1912.....	6,581	765	3	7,349	1927.....	—	475	60	535
1913.....	7,445	724	5	8,174	1928.....	3	478	56	481
1914.....	5,512	856	88	6,456	1929.....	1	445	52	498
1915.....	1,258	592	—	1,850	1930.....	—	194	58	252
					1931.....	—	205	80	285
					Totals.....	61,299	24,425	5,795	91,519

¹Nine months.

Chinese Immigrants.—Oriental immigration to the Pacific Coast of North America appears to have commenced with the coming of Chinese immigrants about the time of the discovery of gold in California in 1849, and British Columbia appears to have received its first Chinese immigrants some time before 1870. The original occupations of these immigrants were as laundrymen and domestic servants. As early as 1872 Chinese were employed in the coal mines of the province and the Legislature was already considering the imposition of a poll tax on Chinese, the same proposition coming up later in the Dominion Parliament with the design of preventing the employment of Chinese labour in railway construction. A Royal Commission was appointed by the Dominion Government in 1884 to investigate Chinese immigration, and this Commission recommended the imposition of a head tax of \$10 upon Chinese entering Canada, together with registration and special

legislation regulating Chinese domestic servants. This led to the passage of legislation in 1885 (48-49 Vict., c. 71), providing that thereafter Chinese of the labouring class should be required, as a condition of entering into Canada, to pay a head tax of \$50 each. On Jan. 1, 1901 (63-64 Vict., c. 32) this tax was increased to \$100, and on Jan. 1, 1904 (3 Edw. VII, c. 8), after another Royal Commission had reported on this matter, the head tax was further increased to \$500. This tax was paid by all Chinese immigrants except consular officers, merchants and clergymen and their families, tourists, men of science, students and teachers. In spite of this restrictive legislation, the number of Chinese enumerated at the decennial censuses rose from 4,383 in 1881 to 17,312 in 1901, to 27,774 in 1911 and to 39,587 in 1921. Of this latter number, 37,163 were males and only 2,424 females. Some 60 p.c. of all the Chinese in Canada, *viz.*, 23,533, were residents of British Columbia.

16.—Record of Chinese Immigrants, fiscal years ended 1886-1931.

Fiscal Year.	Paying Tax.	Exempt from Tax.	Percentage of Total Arrivals Admitted Exempt from Tax.	Registrations for Leave.	Total Revenue.
	No.	No.	p.c.	No.	\$
1886-91.....	4,560	222	4.61	7,041	239,664
1892.....	3,276	6	0.18	2,168	166,503
1893.....	2,244	14	0.62	1,277	113,491
1894.....	2,087	22	1.04	666	105,021
1895.....	1,440	22	1.50	473	72,475
1896.....	1,762	24	1.34	697	88,800
1897.....	2,447	24	0.97	768	123,119
1898.....	2,175	17	0.78	802	109,754
1899.....	4,385	17	0.39	859	220,310
1900.....	4,231	26	0.61	1,102	215,102
1901.....	2,518	26	1.02	1,204	178,704
1902.....	3,535	62	1.73	1,922	364,972
1903.....	5,245	84	1.58	2,044	526,744
1904.....	4,719	128	2.64	1,920	474,420
1905.....	8	69	86.61	2,080	6,080
1906.....	22	146	86.90	2,421	13,521
1907 ¹	91	200	68.73	2,594	48,094
1908.....	1,482	752	33.67	3,535	746,535
1909.....	1,411	695	33.00	3,731	713,131
1910.....	1,614	688	29.89	4,002	813,003
1911.....	4,515	805	15.13	3,956	2,262,056
1912.....	6,083	498	7.57	4,322	3,049,722
1913.....	7,078	367	4.93	3,742	3,549,242
1914.....	5,274	238	4.32	3,450	2,644,593
1915.....	1,155	103	8.19	4,373	588,124
1916.....	20	69	77.53	4,064	19,389
1917.....	272	121	30.78	3,312	140,487
1918.....	650	119	15.47	2,907	336,757
1919.....	4,066	267	6.16	3,244	2,069,669
1920.....	363	181	33.27	5,529	538,479
1921.....	885	1,550	63.66	6,807	474,332
1922.....	1,459	287	16.44	7,532	743,032
1923.....	652	59	8.30	6,682	434,557
1924.....	625	51	7.54	5,661	334,039
1925.....	-	-	-	5,992	308,659
1926.....	-	-	-	3,947	25,969
1927.....	-	-	-	5,987	14,844
1928.....	2	1	33.33	5,087	25,679
1929.....	-	1	100.00	5,480	30,795
1930.....	-	-	-	5,682	30,799
1931.....	-	-	-	5,783	28,846
Totals.....	82,371	7,961	8.81	144,845	22,989,512

¹Nine months.

The Chinese Immigration Act of 1923 (13-14 Geo. V, c. 38), restricts the entry to or landing in Canada of persons of Chinese origin or descent, irrespective of allegiance or citizenship, other than government representatives, Chinese children born in Canada, merchants (defined by what regulations the Minister of Immigration and Colonization may prescribe) and students—the last two classes to possess

passports issued by the Government of China and endorsed by a Canadian immigration officer. As a result no Chinese were admitted to the country as immigrants in the fiscal years ended 1925, 1926 and 1927; three are shown by the above table to have been admitted in 1928, one in 1929, but none in 1930 and 1931.

Japanese Immigrants.—Japanese immigration to Canada commenced about 1896, and a total of some 12,000 came in between then and 1900, but at the census of 1901 the total number enumerated as domiciled in the Dominion was only 4,733 in 1911, 9,021; in 1921, 15,868, 15,006 of these latter being domiciled in British Columbia. The immigration of Japanese was especially active in the fiscal years 1906 to 1908, in which three years a total of 11,565 entered the country. In the latter year an agreement was made with the Japanese Government, under which the latter undertook to limit the number of passports issued to Japanese immigrants to Canada. The statistics of Table 15 show how Japanese immigration to Canada has been restricted.

East Indian Immigrants.—East Indian immigration to Canada, like Japanese, is shown by Table 15 to have been negligible down to 1907, when no fewer than 2,124 East Indian immigrants arrived. However, as a consequence of the operation of a Regulation under section 38 of the Immigration Act of 1910, East Indian immigration has since that date been comparatively small. A resolution of the Imperial War Conference of 1918 declared that "it is the inherent function of the Governments of the several communities of the British Commonwealth that each should enjoy complete control of the composition of its own population by means of restriction on immigration from any of the other communities". However, it was recommended that East Indians already permanently domiciled in other British countries should be allowed to bring in their wives and minor children, a recommendation which was confirmed, so far as Canada was concerned, by Order in Council of Mar. 26, 1919. However, in the ten fiscal years ended Mar. 31, 1921 to 1930, only 10, 13, 21, 40, 46, 62, 60, 56, 52 and 58 East Indian immigrants respectively were admitted, or 418 in the decade. As in the case of Japanese immigration, the 1931 figures show an increase over the previous year but in this case more substantial.

Expenditure on Immigration.—The sums expended by the Dominion Government on immigration in each of the fiscal years ended 1868 to 1931 inclusive as stated in the Public Accounts issued annually by the Department of Finance are shown in Table 17.

17.—Expenditure on Immigration in the fiscal years ended 1868-1931.

(Compiled from Public Accounts.)

Year.	\$	Year.	\$	Year.	\$	Year.	\$
1868.....	36,050	1884.....	511,209	1900.....	434,563	1916.....	1,307,48
1869.....	26,952	1885.....	423,861	1901.....	444,730	1917.....	1,181,99
1870.....	55,966	1886.....	257,355	1902.....	494,842	1918.....	1,211,95
1871.....	54,004	1887.....	341,236	1903.....	642,914	1919.....	1,112,07
1872.....	109,554	1888.....	244,788	1904.....	744,788	1920.....	1,388,18
1873.....	265,718	1889.....	202,499	1905.....	972,357	1921.....	1,688,96
1874.....	291,297	1890.....	110,062	1906.....	842,668	1922.....	2,052,37
1875.....	278,777	1891.....	181,045	1907.....	611,201	1923.....	1,987,74
1876.....	338,179	1892.....	177,605	1908.....	1,074,667	1924.....	2,417,37
1877.....	309,353	1893.....	180,677	1909.....	979,326	1925.....	2,823,92
1878.....	154,351	1894.....	202,235	1910.....	960,676	1926.....	2,328,93
1879.....	186,403	1895.....	195,653	1911.....	1,079,130	1927.....	2,338,99
1880.....	161,213	1896.....	120,199	1912.....	1,365,000	1928.....	2,704,69
1881.....	214,251	1897.....	127,438	1913.....	1,427,112	1929.....	2,631,96
1882.....	215,339	1898.....	261,195	1914.....	1,893,298	1930.....	2,757,33
1883.....	373,958	1899.....	255,879	1915.....	1,658,182	1931.....	2,255,25
Total.....							54,679,44

¹Nine months.

²Includes expenditure on British Empire Exhibition: 1924, \$649,882; 1925, \$599,797; 1926, \$70,661.

Recent Emigration from Canada.—An important factor tending to offset our immigration activities has been a movement from Canada to the United States which has attained considerable proportions at certain periods. The quota system of immigration regulation, applied by the United States Government against immigrants generally but not against the Canadian born, had the effect of limiting immigration to the United States and thereby encouraging Canadians to enter the United States. No record of this movement had ever been kept by the Canadian Government, and, while its seriousness was recognized, its magnitude, as indicated by the United States returns, was questioned on the ground that these returns did not make allowance for Canadians returning to Canada after a more or less extended period of residence in the United States. The Canadian Department of Immigration and Colonization was convinced that a very considerable return movement was taking place, but until 1924 no attempt was made to ascertain the exact magnitude of that movement. In that year immigration officers were instructed to take note of Canadians returning to Canada from the United States after having left Canada to reside in that country. The results are tabulated in Table 18.

Another circumstance which has in the past occasioned a considerable movement from Canada to the United States has no doubt been the practice of Europeans to enter Canada and declare themselves *bona fide* immigrants, with the real intention of entering the United States as soon as the quota restrictions would permit them to do so. The tightening-up of the American regulations concerning persons entering the United States from Canada and the active co-operation of the Canadian Department of Immigration and Colonization in discouraging this traffic, seem to have effectually met this situation.

Table 18 shows the number of Canadians returned from the United States from April 1, 1924, to Mar. 31, 1931.

18.—Canadians Returned from the United States, fiscal years ended Mar. 31, 1925-31.

Fiscal Year ended Mar. 31—	Canadian-born Citizens.	British-born who had Acquired Canadian Domicile.	Naturalized Canadian Citizens.	Total.
1925.....	36,473	4,487	2,815	43,775
1926.....	40,246	4,102	2,873	47,221
1927.....	49,255	5,326	2,376	56,957
1928.....	35,137	3,230	1,470	39,887
1929.....	30,008	2,795	995	33,798
1930.....	26,959	2,030	841	29,830
1931.....	26,811	2,111	1,287	30,209

Official returns now indicate that the movement of population between the two countries is definitely toward Canada. According to the official returns of the United States Government immigration to that country from Canada in the twelve months ended Mar. 31, 1931, amounted to 32,137. Table 2 shows that the movement of immigrants from the United States to Canada in the same period amounted to 24,280, and Table 18 shows a return movement of 30,209 Canadians, a total of 54,489, or a net balance in favour of Canada of 22,352.

In Table 19 will be found the number of trans-oceanic passengers classified as returning Canadians and other non-immigrants who entered Canada through ocean ports in the two latest fiscal years ended Mar. 31, 1930 and 1931. The grand total of such persons was 49,191 in 1931.

19.—Returning Canadians and Other Non-immigrants entering Canada via Ocean Ports, by Class of Travel, fiscal years ended Mar. 31, 1930 and 1931.

NOTE.—Figures in this table cover transatlantic passengers only.

Description.	1930.			1931.		
	Saloon.	Cabin Class.	Third Class.	Saloon.	Cabin Class.	Third Class.
Canadian-born returning.....	2,629	5,870	7,257	2,153	5,094	6,742
British-born returning.....	513	2,900	15,118	460	2,515	13,433
British naturalized returning.....	294	797	1,796	300	719	1,810
Alien nationals returning.....	71	354	2,762	61	323	3,098
Non-immigrant tourist.....	1,427	3,861	4,532	1,306	4,143	3,876
“ professional.....	3	32	33	16	52	56
“ student.....	22	21	29	14	21	50
“ theatrical.....	2	153	13	1	17	18
“ in transit.....	1,512	1,282	510	1,360	1,234	294
“ Diplomatic Corps.....	—	—	—	—	12	19
Totals.....	6,473	15,270	32,050	5,671	14,130	29,390

Colonization Activities.—Coincident with the sharp reduction in immigration disclosed by preceding tables, due to the policy of limiting immigration in accordance with the requirements of the country, a new and important development has occurred in the form of colonization activities within Canada. It was found that there were in the cities of the Dominion many families and individuals with farm experience who had been attracted to industrial centres in more prosperous times and who would now regard with favour the opportunity of an assured subsistence on the land. In many cases families were still in possession of some capital but were in fear of its gradual depletion through unemployment. It was believed that many such families and individuals would return to the land without financial assistance if they could be guided to suitable opportunities. In order to promote such settlement co-ordination of the activities of the Land Settlement Branch of the Department of Immigration and Colonization and those of the Colonization Departments of the Canadian National and Canadian Pacific Railways was arranged, a committee was organized with representatives of the three interests mentioned, and an active program of land settlement within the Dominion was undertaken. To establish contact with families or individuals desiring to return to the land a small campaign of classified advertising in the daily Press was conducted by the committee. There was no suggestion of financial assistance but there was the offer of dependable and disinterested advice and service in placing such families and individuals in touch with opportunities for farm settlement or farm employment. From Oct. 1, 1930, to Nov. 30, 1931, the activities of the three interests concerned resulted in the recorded placement in farm employment in Canada of 12,682 single men, and in the settlement on farms of 6,040 families, all of this without any expenditure of public funds in the form of financial assistance to such settlers. On the basis of five persons to the family the total landward movement resulting from these activities represented more than 42,000 souls. In addition to the co-ordinated activities of the two railways and the Department of Immigration and Colonization, several of the provinces carried on effective land settlement movements.

Section 2.—Immigration Policy.

An article prepared by R. J. C. Stead, Director of Publicity, Department of Immigration and Colonization, appeared under this heading in the 1931 edition of the Year Book at pp. 189 to 192 inclusive.

CHAPTER VII.—SURVEY OF PRODUCTION.

The Definition of "Production".—The term "production" is used here in its popular acceptance, *i.e.*, as including such processes as the growing of crops, extraction of minerals, capture of fish, conversion of water power into electrical current, manufacturing, etc.—in economic phrase, the creation of "form utilities". It does not include various activities which are no less "productive" in a broad and strictly economic sense, such as (*a*) transportation, refrigeration, merchandising, etc., which add to commodities already worked up into form the further utilities of "place", "time" and "possession", and (*b*) personal and professional services, such as those of the teacher and the doctor, which are not concerned with commodities at all, but are nevertheless essential to any civilized society—representing, in economic language, the creation of "service utilities".

As showing the importance of these latter activities, it may be pointed out, for comparison with the figures in the accompanying tables, that steam railway gross earnings in 1929, the latest year for which complete statistics of production are available, amounted to \$534,106,045, street railway gross earnings to \$58,268,980, and telephone and telegraph earnings to \$81,497,051, all of which, from a broad point of view, may be considered as "production". It may be further noted that of 3,173,169 persons ten years of age and over employed in 1921 in gainful occupations in Canada, 247,410 were engaged in transportation, 310,439 in trade, 61,301 in finance, 214,452 in domestic and personal service, 181,391 in professional service, 94,541 in public administration and 7,807 in recreational service, a total of 1,117,341 or 35 p.c. of the whole. In other words, only about 65 p.c. of usefully and gainfully employed persons were engaged in "production", according to the definition adopted in the present statement. Assuming that the proportion is the same now as in 1921 and since the remaining 35 p.c. are probably as "productive", in the broader sense of the term, as the 65 p.c., we may add seven-thirteenths to the total to obtain a rough estimate of the value in dollars of the total productive activity of the Canadian people, according to the economist's definition of production which approximates to the concept of national income. Since the net value of the commodities produced in Canada, according to the general survey of production, which follows as Table 1, and the figures published for earlier years in the 1929 and 1930 Year Books totalled \$2,939,000,000 in 1922, \$3,051,000,000 in 1923, \$3,018,000,000 in 1924, \$3,365,000,000 in 1925, \$3,640,000,000 in 1926, \$3,902,000,000 in 1927, \$4,123,000,000 in 1928 and \$3,947,000,000 in 1929, the grand total money value of the productive activities of the gainfully occupied population of Canada may be estimated at \$4,520,000,000 in 1922, \$4,696,000,000 in 1923, \$4,643,000,000 in 1924, \$5,178,000,000 in 1925, \$5,600,000,000 in 1926, \$6,010,000,000 in 1927, \$6,342,000,000 in 1928 and \$6,072,000,000 in 1929.

The Relation of "Production" to National Income.—The above figures of total production are necessarily larger than the national income, since a con-

siderable deduction must be made therefrom for the purpose of keeping the national capital engaged in production unimpaired, before the remainder can be placed at the disposal of individuals. Machinery that is either obsolete or obsolescent must be replaced, buildings and other equipment kept in a good state of repair, etc. In other words, full and adequate provision must be made out of the year's products for the annual depreciation of the equipment used in their production before any part of that product can be allocated to individuals. On this basis, probably not more than 90 p.c. of the annual value of the productive activities of the Dominion is annually available for consumption as the national income. The national income of the people of Canada in 1929 was thus in the neighbourhood of \$5,465,000,000 (See also entry "National Income" in the index.)

Difficulties in Differentiating between the Branches of Production.

There is an increasing demand for a survey of production that will differentiate as between the more important branches and at the same time give a purview of the whole which will be free from overlapping. This is somewhat difficult to present with clearness, in view of the varying definitions that attach to industrial groups from different points of view. For example, brick, tile and cement are frequently included in "mineral production" as being the first finished products of commercial value resulting from the productive process; frequently, however, they are regarded as "manufactures" in view of the nature of the productive process—either allocation being correct according to the point of view. The tables show the total values of all commodities produced in Canada in the latest years; the values are given as in the producers' hands.

"Gross" and "Net" Production.—The values of products are shown under two headings, namely, "gross" and "net". "Gross" production shows the total value of all the individual commodities produced under a particular heading. "Net" production represents an attempt to eliminate the value of materials consumed in the productive process. For purposes of ordinary economic discussion, the net figures should be used in preference to the gross, because of the large amount of duplication which the latter includes on account of the necessity of making the individual items self-contained.

Interpretation of Items.—The primary industries of agriculture, fishing, forestry, mining, etc., are separated in this statement from the secondary or manufacturing processes. The close association between the two and the overlappings that are apt to occur have already been pointed out. As further explaining the procedure that has been followed in drawing up the tables, the following notes are appended:—

Agriculture.—Dairy factories are included under this heading; farm dairy products (gross) include the milk consumed whole and sold to dairy factories, and the butter, etc., made on the farm.

Forestry.—Forestry production is understood to consist of the operations in the woods as well as those of sawmills and pulp-mills, the latter being limited to the making of first products such as lumber, lath, shingles, pulp and cooper-age stock.

Fur Production.—The item of fur production is limited to the wild-life production. To obtain a total of the peltries produced in Canada, it would be necessary to add to the wild-life output the production of pelts on fur farms, which is included in the total for Agriculture.

Mineral Production.—Under mineral production many items are included that are also allocated to "manufactures". Considerable overlapping exists as between "mineral production" on the one hand and "manufactures" on the other. The Bureau presents the detailed statistics of these groups (the chief of which are smelters, brick, cement, lime, etc.) in its reports on mineral production, since their product is the first to which a commercial value is ordinarily assigned.

Total Manufactures.—The figure given for this heading is a comprehensive one including the several items listed with the extractive industries above, though also frequently regarded as "manufactures", viz., dairy factories, fish-canning and curing, sawmills, pulp-mills, shipbuilding and certain mineral industries. This duplication is eliminated from the grand totals as well as from "manufactures, *n.e.s.*", listed in Table 5.

Manufactures, n.e.s.—The figures given for manufactures, *n.e.s.*, are exclusive of the value of the products of all manufacturing processes closely associated with the extractive industries that are frequently included under this heading; hence it is obvious that the grand total is equivalent to an amount obtained by adding the values for manufactures, *n.e.s.*, and for the other eight divisions.

Section 1.—The Leading Branches of Production in 1929.

Despite a substantial gain in the value of manufacturing production, the net value of production in Canada was less in 1929 than in the preceding year. With the exception of 1928, however, the value of production was greater in 1929 than in any other year on record. The total was 4.4 p.c. less than in 1928, 1 p.c. greater than in 1927 and nearly 8.5 p.c. greater than in 1926. The physical production of field crops in 1929, owing to adverse weather conditions, was at a low level and prices of farm products averaged less than in the preceding year. Industrial conditions were excellent during the first half of the year under review, and the decline in subsequent months was relatively moderate. The result was that the value of the output of manufacturing production was greater than in any preceding year. The net value of commodities produced in Canada during 1929, as estimated by the Dominion Bureau of Statistics on the basis of statistics compiled by its various branches, was \$3,946,600,000. This compares with \$4,122,500,000 in 1928 and \$3,901,500,000 in 1927.

The Main Branches of Production in 1929.—Confining our analysis to the net production of commodities, "net" production signifying the value left in the producers' hands after the elimination of the value of the materials consumed in the production process, it is noteworthy that agriculture alone of the nine branches of production showed marked reduction in 1929. Forestry, comprising woods operations and the value added by the manufacturing process in the sawmilling and pulp industries, showed a gain of 4.1 p.c. Mining production, reaching a new high record, showed a gain of 13 p.c. The revenue from net sales of the central electric stations at \$122,883,000 was 9.4 p.c. greater than in 1928, this showing being characteristic of the steady and rapid development of the power industry in Canada. The revenues of the fisheries and of trapping showed a slight falling off from the high levels of the preceding year. Each of the three branches of secondary production showed a substantial increase for 1929. The value added by the manufacturing operations was \$1,997,350,000, a gain of nearly 10 p.c. over 1928, which in turn was greater than in any previous year in the industrial history of Canada. Construction advanced by over 21 p.c., and the net value of custom and repair by nearly 21 p.c.

Relative Importance of the Several Branches of Production.—The greater net value of manufacturing production and the decrease in that of agricultural operations have combined to greatly increase the lead which the former has established over the latter in recent years. This lead was 7.5 p.c. in 1927, 21 p.c. in 1928, and for 1929 is no less than 93 p.c. It is scarcely to be expected that this lead will be maintained at the 1929 level. Agricultural conditions were adversely affected by the fact that the per acre yields of Canadian field crops were lower in 1929 than for any year since 1915, but manufacturers did not feel the effects of adverse conditions until towards the close of the year, and then not so severely.

Agricultural production in 1929 represented only 26.2 p.c. of the net output of all branches compared with 36.4 p.c. for the previous year. The value added by the manufacturing processes in 1929 was 50.6 p.c. of the total net production compared with 44.1 p.c. in 1928. However, a number of the industries listed under manufactures are also included in the several extractive industries with which they are associated. When this duplication is eliminated, the output of the manufacturing industries not elsewhere included was 40.2 p.c. of the total net production of 1929. Construction held third place with a percentage of 9.8. Forestry was in fourth place, with a percentage of 8.6, followed by mining, with a percentage of 7.9; in 1928 mining represented 6.7 p.c. and forestry 7.9 p.c. The electric power group had an output of 3.1 p.c. of the total net production, compared with 2.7 p.c. for 1928. Repair work, fisheries and trapping followed, with percentages in 1929 of 2.5, 1.4 and 0.4, respectively.

A summary of gross and net production is given by industries for the years from 1925 to 1929 in Table 1; a detailed itemized statement of the net value of production in 1927, 1928 and 1929, is given in Table 2.

1.—Gross and Net Values of Production in Canada, by Industries, 1925-1929.

GROSS VALUE OF PRODUCTION.

Division of Industry.	1925.	1926.	1927.	1928.	1929.
	\$	\$	\$	\$	\$
Agriculture ¹	1,832,537,811	1,806,075,911	1,917,999,084	1,905,311,580	1,729,821,129
Forestry.....	434,715,813	454,773,119	453,694,831	473,559,767	495,562,847
Fisheries.....	61,896,067	73,052,985	63,876,559	70,668,167	70,580,223
Trapping.....	14,778,173	17,609,036	17,640,781	16,603,827	16,356,447
Mining.....	253,912,742	279,674,780	279,873,382	308,250,712	352,266,692
Electric power.....	102,587,882	115,467,940	134,818,567	143,692,455	157,459,385
Totals, Primary Production	2,700,458,488	2,746,653,771	2,867,903,204	2,918,086,508	2,822,116,723
Construction.....	310,215,481	385,913,533	435,359,000	488,378,000	594,144,825
Custom and repair ²	96,280,000	107,367,900	116,082,000	129,085,000	143,877,000
Manufactures ³	2,948,545,315	3,247,803,438	3,425,498,540	3,769,850,364	4,063,987,279
Totals, Secondary Production	3,355,040,796	3,741,084,871	3,976,939,540	4,387,313,364	4,802,009,104
Grand Totals	5,452,366,938	5,837,369,237	6,167,381,194	6,574,619,365	6,846,171,400

NET VALUE OF PRODUCTION.

Division of Industry.	1925.	1926.	1927.	1928.	1929.	P.c. of Net Value of Production, 1929.
	\$	\$	\$	\$	\$	p.c.
Agriculture.....	1,382,568,424	1,400,244,658	1,522,948,870	1,501,271,463	1,034,129,824	26-20
Forestry.....	313,412,842	312,844,584	311,915,163	322,654,008	337,649,073	8-56
Fisheries.....	47,942,131	56,360,633	49,497,038	55,050,973	53,518,521	1-36
Trapping.....	14,778,173	17,609,036	17,640,781	16,603,827	16,356,447	0-41
Mining.....	226,583,333	240,437,123	247,356,695	274,989,487	310,850,246	7-88
Electric power.....	79,341,584	88,933,733	104,033,297	112,326,819	122,883,446	3-11
Totals, Primary Production	2,064,656,487	2,116,429,767	2,253,391,844	2,283,896,577	1,875,387,562	47-52
Construction.....	202,102,890	251,088,323	283,263,000	319,164,000	386,709,398	9-81
Custom and repair ²	61,534,000	68,743,000	74,174,000	82,482,000	99,618,000	2-52
Manufactures ³	1,360,879,907	1,519,179,246 ⁴	1,635,923,936	1,819,040,025	1,997,350,365	50-60 ⁴
Totals, Secondary Production	1,624,516,797	1,839,010,569	1,993,360,936	2,220,692,025	2,433,677,763	62-93
Grand Totals	3,364,824,598	3,640,356,606	3,901,505,298	4,122,509,882	3,946,609,211	100-00

¹ The gross value of agricultural production here exceeds that given in Appendix III, Agricultural Statistics, of this edition of the Year Book, by the amount paid to patrons of dairy factories for milk and cream.

² Statistics of custom and repair industries were not collected after 1922, and the totals for that year were repeated in 1923 and 1924. The totals for 1925 to 1929 were estimated according to the percentage change in the data for manufacturing.

³ The item "manufactures" includes dairy factories, sawmills, pulp-mills, fish-canning and curing, shipbuilding, electric power and certain mineral industries also included under other headings. This duplication, amounting in 1924 to a gross of \$503,446,583 and a net of \$279,310,986, in 1925 to a gross of \$603,132,346 and a net of \$324,348,686, in 1926 to a gross of \$650,369,405 and a net of \$315,083,730, in 1927 to a gross of \$677,458,550 and a net of \$345,247,482, in 1928 to a gross of \$730,780,507 and a net of \$382,078,720 and in 1929 to a gross of \$777,954,427 and a net of \$412,456,114 is eliminated from the grand totals.

⁴ The proportion of manufactures, freed from all duplication (as explained in note 3) to the grand total of net production was 40-16 p.c., and under like conditions the proportion of all secondary production to the grand total of net production was 52-49 p.c.

⁵ This figure exceeds by \$26,534,207 that given in the Manufactures chapter as the net production of manufactures in 1926. This difference is due to certain duplications in the central electric station industry not having been eliminated when the 1926 figures were first compiled.

2.—Detailed Itemized Statement of the Net Values of Production in Canada during 1927, 1928 and 1929.

Classification.	Net Production.		
	1927.	1928.	1929.
	\$	\$	\$
Agriculture—Field Husbandry—			
Field crops.....	1,115,043,000	1,053,817,000	794,783,000
Fruits and vegetables.....	45,707,000	48,400,463	46,100,824
Maple products.....	4,935,000	5,583,000	6,119,000
Tobacco.....	9,112,000	6,834,000	6,276,000
Grass and clover seed.....	3,841,000	2,957,000	2,123,000
Honey.....	2,937,000	3,015,000	2,849,000
Flax fibre.....	321,000	509,000	393,000
Totals, Field Husbandry.....	1,181,896,000	1,121,115,463	858,643,824
Animal Husbandry—			
Farm Animals.....	183,927,000	197,880,000	207,317,000
Wool.....	4,108,000	5,099,000	4,470,000
Dairy products—			
Dairy butter.....	30,435,121	29,103,000	28,929,000
Creamery butter.....	65,709,966	64,703,000	65,930,000
Home made cheese.....	70,654	82,000	83,000
Factory cheese.....	25,522,148	30,494,000	21,471,000
Miscellaneous factory products.....	18,879,335	20,581,000	22,092,000
Milk consumed fresh or otherwise used.....	149,631,626 ¹	148,082,000 ¹	153,238,000 ¹
Poultry and eggs.....	97,937,000	106,653,000	107,664,000
Fur farming—			
Pelts.....	2,154,000	2,346,000	2,316,000
Animals.....	2,644,000	3,760,000	4,475,000
Totals, Animal Husbandry.....	341,050,870²	380,156,000	175,486,000²
Totals, Agricultural Production.....	1,522,948,870	1,501,271,463	1,034,129,824
Forestry—			
Logs and bolts.....	74,270,067	76,431,481	79,278,543
Pulpwood.....	70,284,895	74,848,077	76,120,063
Railway ties.....	6,242,865	5,871,724	5,730,423
All other forest products.....	54,833,900	55,799,517	58,441,100
Totals, Forestry Operations.....	205,631,727	212,950,799	219,570,129
Sawmill products.....	56,181,854	58,972,953	63,245,612
Pulp-mill products.....	50,101,582	51,730,256	54,833,337
Totals, Milling Operations.....	106,283,436	110,703,209	118,078,949
Totals, Forestry Production.....	311,915,163	323,654,008	337,649,078
Fisheries—			
Fish sold fresh by fishermen.....	18,138,789	18,131,309	16,637,841
Sales to canning and curing establishments.....	14,379,521	15,617,194	17,061,702
Fish domestically cured.....	273,640	651,932	1,914,420
Fish-canning and curing establishments (value added)...	16,705,088	20,650,538	17,904,558
Totals, Fisheries Production.....	49,497,038	55,050,973	53,518,521
Trapping—			
Fur Production (wild life).....	17,640,781	16,603,827	16,356,447
Mineral Production—			
Smelting.....	47,210,995	61,081,477	63,438,022
Other metallics.....	66,350,035	70,930,977	86,016,034
Fuels.....	71,426,516	74,413,160	76,787,397
Salt.....	1,614,667	1,495,871	1,578,086
Other non-metallics.....	15,945,063	17,330,721	19,495,873
Clay products.....	11,173,189	12,381,718	13,904,643
Cement.....	14,391,937	16,739,163	19,337,235
Lime.....	3,923,388	4,534,568	5,908,610
Other structural materials.....	15,320,905	16,081,732	19,384,346
Totals, Mineral Production.....	247,356,695	274,989,487	310,850,246
Electric Light and Power³.....	104,033,297	112,326,819	122,883,446
Totals, Primary Production.....	2,253,391,844	2,283,896,577	1,875,387,562

¹ Three per cent for wastage was deducted from value of milk consumed fresh.

² Cost of feed is deducted from the gross for animal husbandry.

³ This amount is exclusive of duplication involved in purchases of power by reporting companies.

2.—Detailed Itemized Statement of the Net Values of Production in Canada during 1927, 1928 and 1929—concluded.

Classification.	Net Production.		
	1927.	1928.	1929.
	\$	\$	\$
Construction—			
General construction.....	272,319,000	306,821,000	374,823,670
Shipbuilding.....	10,944,000	12,343,000	11,885,728
Totals, Construction.....	283,263,000	319,164,000	386,709,398
Custom and repair.....	74,174,000	82,482,000	99,618,000
Manufactures—			
Vegetable products.....	283,374,975	317,073,457	344,437,941
Animal products.....	132,260,556	133,697,496	132,409,973
Textiles.....	183,137,300	191,671,848	205,943,337
Wood and paper.....	357,786,924	389,389,952	411,616,451
Iron and steel.....	264,819,160	300,014,925	353,087,320
Non-ferrous metals.....	112,757,295	139,220,908	158,645,034
Non-metallic minerals.....	89,433,536	112,398,268	124,874,388
Chemicals.....	63,854,084	72,812,503	83,360,884
Miscellaneous, including central electric stations.....	148,500,106	162,766,668	182,975,037
Totals, Manufactures¹.....	1,635,923,936	1,819,046,025	1,997,350,365
Totals, Secondary Production.....	1,993,360,936	2,220,692,025	2,483,677,763
Grand Totals.....	3,901,505,298	4,122,509,882	3,946,609,211

¹ The item "total manufactures" includes the following industries which are also shown elsewhere, the amount of the duplication being deducted from the grand totals:—

Dairy factories.....	33,176,852	34,783,938	36,971,994
Sawmills and pulp-mills.....	106,283,436	110,703,209	118,078,949
Fish-canning and curing.....	12,719,763	15,688,965	13,469,401
Shipbuilding.....	10,944,127	12,342,892	11,885,728
Mineral industries.....	78,090,007	96,232,897	122,883,446
Electric power.....	104,033,297	112,326,819	109,166,596
Totals.....	345,247,482	382,078,720	412,456,114
Totals, Manufactures (duplications eliminated).....	1,290,676,454	1,436,967,305	1,584,894,251

Section 2.—The Provincial Distribution of Production.

During the post-war period of recovery, since 1921, the trend of net production has exhibited considerable variation in the different provinces. In Prince Edward Island, the lowest point was reached in 1922, followed by substantial recovery from 1924 to 1926, with a pronounced decline in 1927, a further moderate decline in 1928, and a slight recovery in 1929. The depression in Nova Scotia was maintained from 1920 to 1925 but net production in 1926 showed a marked reversal of the trend in preceding years. For 1928 a record level of \$144,000,000 was attained, although for 1929 this was reduced to \$129,000,000. The trend in New Brunswick showed increases in 1925 and 1926, with a slight recession in 1927, a further decrease in 1928, but a reversal of this downward trend in 1929.

In Quebec the decline in 1921 was very severe. During the subsequent period the chief features were a substantial gain in 1923, a minor recession in 1924 and a marked recovery in 1925, continued in 1926, 1927, 1928 and 1929. The decline of 1921 was also very severe in Ontario, but since that year continuous increases have been recorded. The increase in 1924 over the preceding year was very slight, but aside from this partial interruption, a steady rate of increase was maintained from 1922 to 1929.

The special feature in the case of Manitoba was the marked increase in 1924 over 1923. There were substantial increases in 1926 and 1928 alternating with decreases. The 1929 figures are the lowest since 1923. For Saskatchewan a decline was shown in 1921, but the total of 1920 was exceeded in 1922 and again in 1925. There was a temporary decline in 1926, followed by a good recovery during the next two years. The 1929 figure, however, is the lowest since 1924. High points in the net value of production in Alberta were attained in 1923 and 1927 but in 1928 there was a decline of about 10 p.c. As in the case of Saskatchewan, the 1929 figure is the lowest since 1924. In British Columbia, steady increases were shown during the recovery from 1922 to 1926, the upward trend being fairly continuous to 1929. British Columbia was the only western province to show an increase over the previous year.

The values of gross and net production are given by provinces for the years 1925 to 1929 in Table 3. It will be seen that in the four years the total net production of the Dominion increased from \$3,364,824,598 to \$3,946,609,211 or by \$581,784,613, which is 17·3 p.c.

3.—Gross and Net Value of Production in Canada, by Provinces, 1925-1929.

GROSS VALUE OF PRODUCTION.

Province.	1925.	1926.	1927.	1928.	1929.
	\$	\$	\$	\$	\$
P.E. Island.....	30,750,962	32,028,754	25,590,162	28,925,960	32,807,542
Nova Scotia.....	144,310,705	170,611,631	169,539,287	204,211,630	199,016,575
New Brunswick.....	142,364,505	141,860,640	135,971,623	132,957,669	141,493,983
Quebec.....	1,325,485,813	1,436,435,438	1,513,389,889	1,612,448,740	1,770,707,067
Ontario.....	2,274,066,092	2,472,666,468	2,619,513,041	2,813,092,274	2,999,318,714
Manitoba.....	266,263,418	311,220,571	311,515,657	355,009,130	342,731,190
Saskatchewan.....	473,558,251	435,783,731	483,638,832	502,850,308	432,316,508
Alberta.....	360,559,745	383,207,517	462,347,821	439,513,402	409,642,138
British Columbia.....	401,006,882	447,965,982	436,638,318	480,127,529	512,628,119
Yukon.....	3,970,565	5,588,596	5,239,564	5,482,693	5,509,564
Grand Totals.....	5,452,366,938	5,837,369,237	6,167,384,194	6,574,619,365	6,846,171,400

NET VALUE OF PRODUCTION.

Province.	1925.	1926.	1927.	1928.	1929.	Percent- age of Total Net Value in 1929.
	\$	\$	\$	\$	\$	p.c.
P.E. Island.....	23,428,069	26,325,625	23,734,082	23,128,829	23,452,390	0·63
Nova Scotia.....	95,814,984	124,218,480	119,540,211	144,272,367	129,380,164	3·28
New Brunswick.....	87,872,881	90,964,915	86,871,419	85,364,983	87,382,143	2·21
Quebec.....	803,412,257	869,594,363	920,270,084	979,666,796	1,049,515,828	26·59
Ontario.....	1,273,062,275	1,371,688,666	1,469,994,588	1,572,835,443	1,658,395,781	42·02
Manitoba.....	187,877,971	207,100,745	200,050,712	235,182,568	185,231,376	4·69
Saskatchewan.....	366,359,945	357,046,765	406,068,995	413,825,134	238,781,959	6·05
Alberta.....	261,465,029	298,026,980	378,578,571	341,413,575	237,493,962	6·02
British Columbia.....	261,575,061	289,811,471	291,140,286	321,354,232	331,466,014	8·40
Yukon.....	3,956,127	5,588,596	5,226,350	5,465,945	5,509,564	0·14
Grand Totals.....	3,364,824,598	3,640,356,606	3,901,505,298	4,122,509,882	3,946,609,211	100·00

Relative Production in Different Provinces, 1929.—It will be seen from Table 3 that Ontario and Quebec held first and second places among the provinces in the net value of production in 1929. The percentage of production of each of

these provinces to the total was higher than in 1928, when the net output in the two provinces represented 38.2 p.c. and 23.8 p.c. of the total respectively. Third place, in 1929, definitely goes to British Columbia with 8.4 p.c. of the total. Saskatchewan and Alberta, formerly third and fourth, are reduced to fourth and fifth places respectively. Manitoba retains sixth place, followed by Nova Scotia, New Brunswick and Prince Edward Island in the order named.

Section 3.—Leading Branches of Production in each Province, 1929.

The Maritime Provinces.—Production in *Nova Scotia* in 1929 was principally in the manufacturing, mining and agricultural industries, which were accountable for 33.1 p.c., 23.9 p.c. and 23.3 p.c. respectively of the net output of the province; the contribution of manufactures, aside from processes carried on in connection with the extractive industries, was 24.4 p.c. In *New Brunswick* manufacturing also took first place as a producer of new wealth, the proportion being 35.5 p.c. Agriculture was second with 32.4 p.c. and forestry a close third. If the manufacturing group be limited to exclude processes carried on in connection with the extractive industries then it ranked third after agriculture and forestry. Agriculture including fur farming contributed 83.8 p.c. of the net output of *Prince Edward Island*. In the Maritime Provinces as a whole there were declines for 1929 in the net outputs of agriculture, construction and repair work which more than balanced increases in other branches of industry. The net result was that the value of production was 4.8 p.c. less than in the preceding year.

Quebec.—The product derived from manufactures in Quebec was greater than that from any other industry. Manufactures, aside from the output of establishments associated with the extractive industries, contributed 47.3 p.c., while the net output of the entire manufacturing division, referred to the same base, was 58.8 p.c. Agriculture with 19.7 p.c., construction with 12.3 p.c. and forestry with 10.0 p.c. occupied second, third and fourth places. Increases were shown in each of five branches of production in 1929 as compared with 1928. The increases over 1928 in manufactures and in the generation of electrical energy reached 9.5 p.c. and 13.2 p.c. respectively.

Ontario.—The net production from the manufactures of Ontario, when stripped of all duplication, was \$865,000,000 or 52.2 p.c. of the total, compared with \$340,300,000 or 20.5 p.c. from agriculture. Construction held third place with 8.6 p.c. of the total, and mining followed with 7.1 p.c. The forestry output was 5.5 p.c. of the net production of the province. Increases over 1928 took place in all the main divisions of production, except agriculture, fisheries and trapping. The net output of manufactures increased by \$107,700,000, while agriculture showed a decline of \$52,800,000. Except in forestry and fisheries, Ontario led the other provinces and divisions in the productiveness of the main branches of industry. The province yielded precedence in forestry operations to Quebec alone, while British Columbia, Nova Scotia and New Brunswick obtained a greater income from fisheries. About 51.2 p.c. of the net manufacturing output of the country was contributed by Ontario and 33 p.c. of the agricultural income was derived from the same source.

The Prairie Provinces.—About 72.5 p.c. of the output of Saskatchewan was obtained from farming, which also largely predominated as a producer of new wealth in Manitoba and Alberta, the proportions being 36.9 p.c. and 54.0 p.c., respectively. Mineral production, chiefly coal-mining, held second place in Alberta, with an output of 14.6 p.c. of the provincial total. Manufacturing was second in importance in Manitoba, representing 33.1 p.c. of the value of the net output. Reduced grain yields and lower prices accounted mainly for the decrease in the net production of Manitoba, while agricultural income also showed a decline in Saskatchewan and Alberta.

British Columbia.—The net production from manufacturing in British Columbia during 1928 was about \$132,000,000, but more than half of this amount was derived from manufacturing processes closely associated with the primary industries, especially logging and fishing. The remainder, \$57,300,000, was 17.3 p.c. of the net output of the province. Aside from manufacturing, forestry constituted the chief source of new wealth, about 26.2 p.c. of the total output of the province being contributed by the forest. Mining and farming followed in order, with percentages of 20.6 and 11.8, respectively.

Details showing the gross and net values of production, by industries, in the various provinces in 1929, together with percentages, are given in Tables 4 and 5.

4.—Gross and Net Values of Production in Canada, by Industries and Provinces, 1929.

NOTE.—For Dominion totals, see Tables 1 and 2.

GROSS PRODUCTION.

Industry.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	\$	\$	\$	\$	\$
Agriculture.....	26,850,962	45,527,642	41,134,099	336,742,923	559,163,664
Forestry.....	669,595	11,870,173	37,296,545	163,167,081	133,706,544
Fisheries.....	1,846,797	16,223,416	7,374,092	3,328,891	3,919,144
Trapping.....	14,598	238,933	194,233	2,350,353	4,020,005
Mining.....	—	30,904,453	2,439,072	55,576,640	129,277,608
Electric power.....	203,633	3,813,379	2,816,978	46,322,046	73,869,083
Construction.....	627,300	14,997,872	6,806,500	197,200,053	219,004,033
Custom and repair.....	267,000	3,878,000	1,973,000	25,275,000	64,175,000
Manufactures ¹	4,638,725	94,292,816	71,433,966	1,160,612,992	2,103,090,788
Grand Totals.....	32,807,542	199,016,575	141,493,383	1,770,707,067	2,999,318,714

Industry.	Manitoba.	Saskat- chewan.	Alberta.	British Columbia.	Yukon.
	\$	\$	\$	\$	\$
Agriculture.....	126,061,636	305,028,391	228,594,138	60,717,674	—
Forestry.....	8,759,920	5,687,483	9,096,613	125,338,893	—
Fisheries.....	2,745,205	572,871	732,214	33,812,788	24,805
Trapping.....	1,143,439	2,149,196	2,303,403	1,363,264	2,579,023 ²
Mining.....	5,423,825	2,253,506	34,739,986	88,745,866	2,905,736
Electric power.....	7,545,627	4,235,212	5,118,696	13,574,731	—
Construction.....	38,198,192	34,184,300	29,159,600	53,966,975	—
Custom and repair.....	12,355,000	11,722,000	10,820,000	13,412,000	—
Manufactures ¹	164,909,127	80,501,159	107,556,792	276,950,914	—
Grand Totals.....	342,731,190	432,316,508	409,642,138	512,628,119	5,509,564

For footnotes, see end of Table 4, p. 173.

4.—Gross and Net Values of Production in Canada, by Industries and Provinces, 1929—concluded.

NET PRODUCTION.

Industry.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	\$	\$	\$	\$	\$
Agriculture.....	19,650,000	30,159,723	28,346,000	206,847,195	340,303,820
Forestry.....	532,259	9,707,296	24,828,864	105,487,196	90,408,523
Fisheries.....	1,297,125	11,427,491	5,935,635	2,933,339	3,919,144
Trapping.....	14,598	238,933	194,233	2,350,353	4,020,005
Mining.....	—	30,904,453	2,439,072	46,358,285	117,662,505
Electric power.....	203,185	3,087,911	2,208,666	40,910,068	51,169,734
Construction.....	407,745	9,809,106	4,424,225	128,911,564	141,983,320
Custom and repair.....	203,000	2,544,000	1,532,000	19,816,000	43,747,000
Manufactures ¹	1,773,894	42,786,293	30,980,431	617,372,403	1,022,984,190
Grand Totals.....	23,452,390	129,380,194	87,382,143	1,049,515,828	1,658,395,781

Industry.	Manitoba.	Saskatchewan	Alberta.	British Columbia.	Yukon.
	\$	\$	\$	\$	\$
Agriculture.....	68,274,916	173,109,918	128,326,870	39,111,382	—
Forestry.....	6,734,916	5,291,482	7,720,289	86,888,253	—
Fisheries.....	2,745,205	572,871	732,214	23,930,692	24,805
Trapping.....	1,143,439	2,149,196	2,303,403	1,363,264	2,579,023 ²
Mining.....	5,423,825	2,253,506	34,739,986	68,162,878	2,905,736
Electric power.....	6,442,510	4,169,590	4,386,380	10,305,402	—
Construction.....	24,829,087	22,219,795	18,953,740	35,170,816	—
Custom and repair.....	8,305,000	7,266,000	6,960,000	9,245,000	—
Manufactures ¹	75,750,746	29,292,332	44,123,868	132,286,208	—
Grand Totals.....	185,231,376	238,781,959	237,493,963	331,466,014	5,509,564

¹ The totals for manufactures involve duplicated amounts which were deducted in computing the grand total for each province. The duplication arises from including in two places a number of industries which may be regarded as extractive or as manufacturing processes. Shipbuilding has been included under construction as well as under manufacturing. The following statement gives the amount of the duplication by provinces:—Prince Edward Island, gross \$2,311,068, net \$679,416; Nova Scotia, gross \$22,730,109, net \$11,285,012; New Brunswick, gross \$29,974,502, net \$13,506,983; Quebec, gross \$219,868,912, net \$121,470,575; Ontario, gross \$290,907,155, net \$157,802,460; Manitoba, gross \$24,410,781, net \$14,418,268; Saskatchewan, gross \$14,017,610, net \$7,542,731; Alberta, gross \$18,479,304, net \$10,752,788; British Columbia, gross \$155,254,986, net \$74,997,881.

² Includes the trapping industry of the Northwest Territories.

5.—Percentage of the Value of the Net Production in each Industry to the Total Net Production of each Province, 1929.

Industry.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	p.c.	p.c.	p.c.	p.c.	p.c.
Agriculture.....	83.79	23.31	32.44	19.71	20.52
Forestry.....	2.48	7.50	28.42	10.05	5.45
Fisheries.....	5.53	8.83	6.79	0.28	0.24
Trapping.....	0.06	0.18	0.22	0.22	0.24
Mining.....	—	23.89	2.79	4.42	7.00
Electric power.....	0.87	2.39	2.53	3.90	3.09
Construction.....	1.74	7.58	5.06	12.28	8.56
Custom and repair.....	0.86	1.97	1.75	1.89	2.64
Manufactures, n.e.s.....	4.67	24.35	20.00	47.25	52.17
Grand Totals.....	100.00	100.00	100.00	100.00	100.00
Total Manufactures (percentage to Grand Total of Net Production).....	7.56	33.07	35.45	58.82	61.69

5.—Percentage of the Value of the Net Production in each Industry to the Total Net Production of each Province, 1929—concluded.

Industry.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.	Canada.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Agriculture.....	36.86	72.50	54.03	11.80	—	26.20
Forestry.....	3.64	2.22	3.25	26.21	—	8.56
Fisheries.....	1.48	0.24	0.31	7.22	0.45	1.36
Trapping.....	0.62	0.90	0.97	0.41	46.81 ¹	0.41
Mining.....	2.93	0.94	14.63	20.57	52.74	7.88
Electric power.....	3.48	1.75	1.85	3.11	—	3.11
Construction.....	13.40	9.30	7.98	10.61	—	9.80
Custom and repair.....	4.48	3.04	2.93	2.79	—	2.52
Manufactures, n.e.s.....	33.11	9.11	14.05	17.28	—	40.16
Grand Totals.....	100.00	100.00	100.00	100.00	100.00	100.00
Total Manufactures (percentage to Grand Total of Net Production).....	40.89	12.27	16.58	39.91	—	50.61

¹ Includes the trapping industry of the Northwest Territories.

CHAPTER VIII.—AGRICULTURE.

Agriculture, including stock raising and horticulture, is the chief single industry of the Canadian people, employing, in 1921, 32·8 p.c. of the total gainfully occupied population and 38·16 p.c. or nearly two-fifths of the gainfully occupied males. In addition, it provides the raw material for many Canadian manufactures, and its products in raw or manufactured form constitute a very large percentage of Canadian exports. For a statement on the occupied and the available agricultural lands in Canada, see p. 39 of this volume.

This chapter of the present volume contains a statement of current governmental activities in connection with agriculture, including those of the Dominion and Provincial Experimental Stations. Ordinarily this has been followed by statistics of agriculture, including agricultural revenue and wealth, field crops, farm live stock and poultry, fur farming, dairying, fruit, special crops, farm labour and wages, prices, miscellaneous, and, since Canadian exports of agricultural commodities are sold in the world market, a review of world statistics of agriculture, compiled from the publications of the International Institute of Agriculture. In the present edition, however, since many of the figures contained in the statistics of agriculture are either compiled or modified from information obtained at the decennial censuses, and since this information from the census of 1931 was not available at the time this part of the volume was going to press, all the statistics of agriculture have been transferred to Appendix III at the end of the book.

The Canada Year Book, 1924, contained, on pages 186 to 191, an article on the "Development of Agriculture in Canada", by Dr. J. H. Grisdale, Deputy Minister, Department of Agriculture, Ottawa. To this the interested reader is referred.

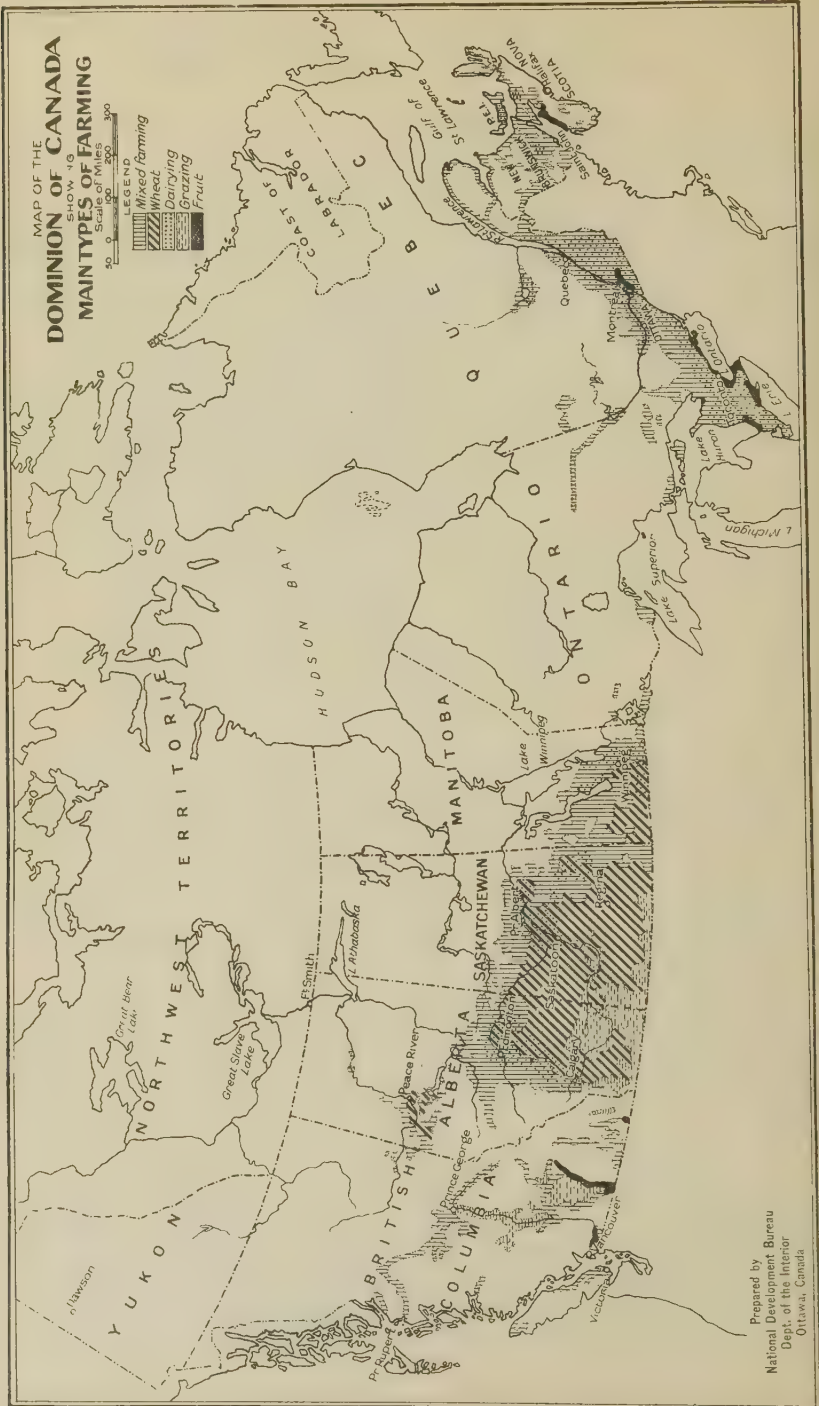
Section 1.—The Government in Relation to Agriculture.

It is provided in section 95 of the British North America Act that "in each province the Legislature may make laws in relation to agriculture in the province"; it is also "declared that the Parliament of Canada may from time to time make laws in relation to agriculture in all or any of the provinces; and any law of the Legislature of a province relative to agriculture . . . shall have effect in and for the province as long and as far only as it is not repugnant to any Act of the Parliament of Canada".

As a result of this provision, there exist at the present time Departments of Agriculture, with Ministers of Agriculture at their heads, both in the Dominion and in each of the nine provinces, though in most provinces the portfolio of agriculture is combined with one or more other portfolios in the hands of a single Minister. A short sketch of the functions of the various Departments follows.

Subsection 1.—The Dominion Department of Agriculture.

The Dominion Department of Agriculture was constituted in 1868 under authority of 31 Vict., c. 53, with numerous functions that were by no means purely agricultural, including (1) agriculture; (2) immigration and emigration; (3) public health and quarantine; (4) the marine and immigrant hospital at Quebec; (5) arts and manufactures; (6) the census, statistics and the registration of statistics; (7) patents of invention; (8) copyright; (9) industrial designs and trade marks.



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In the course of time the purely agricultural work of the Department came to demand greater attention; the non-agricultural functions were one by one entrusted to other Departments of the Government, while specialization became the order of the day within the Department of Agriculture itself. At the present time it includes the following branches: (1) Experimental Farms; (2) Dairy and Cold Storage; (3) Health of Animals; (4) Live Stock; (5) Seed; (6) Entomological; (7) Fruit; (8) Publications; (9) Agricultural Economics.

For the Acts of Parliament administered by the Dominion Department of Agriculture, see in the index "Acts of Parliament administered by Dominion Government Departments". For the publications of the Department, covering a wide field of information, see in the index the entry "Publications of Dominion Departments".

Subsection 2.—Provincial Departments of Agriculture.

Prince Edward Island.—The Department of Agriculture is presided over by a Minister, and the staff consists of a Deputy Minister, a Live Stock Superintendent, a Superintendent of Women's Institutes and a Dairy Superintendent. Assistance is given in co-operative marketing, promoting the live stock industry and encouraging exhibitions, the formation of boys' and girls' clubs and the welfare of agriculture generally.

Nova Scotia.—Agriculture in the province of Nova Scotia is administered by the Department of Agriculture. The Department is divided into the following main divisions: (1) administration, (2) agricultural college, (3) demonstration farm, (4) demonstration poultry plant, (5) poultry, (6) government creameries, (7) dairying, (8) horticulture, (9) apiculture, (10) live stock, (11) entomology, (12) botany, (13) soils and fertilizers, (14) agricultural associations and societies, (15) exhibitions, (16) extension service, (17) women's institutes, (18) field crops, (19) marketing.

New Brunswick.—The branches of the Department of Agriculture of New Brunswick are as follows: (1) industry, immigration and farm settlement, (2) elementary agricultural education, (3) agricultural societies and live stock, (4) dairying, (5) horticulture, (6) soils and crops, (7) poultry, (8) bee-keeping, (9) women's institutes, (10) agricultural representatives.

Quebec.—The Quebec Department of Agriculture comprises a certain number of branches and sections as follows: *Agricultural Economics Branch*, including the following sections: publicity; co-operation, markets and statistics; demonstration farms; agricultural surveys; field husbandry; drainage; home economics, bee-keeping and sugar making; agricultural societies. *Live Stock Branch*, including the following sections: dairy; veterinary; swine; sheep; horses; poultry; farm buildings. *Horticulture Branch*, including the following sections: fruit growing; truck crops; vegetable canning; flower growing; phytopathology; entomology; botany. *Agricultural Representatives Branch*: 82 agricultural representatives' offices are now established in rural counties of Quebec, and are under the supervision of 6 inspectors. The above organizations are all under one General Director of Branches.

There are other activities which are not included in the above organization, such as: agricultural education; agricultural merit competition; provincial dairy school.

Ontario.—The Ontario Department of Agriculture includes the following branches: agricultural and horticultural societies, live stock, institutes, dairy, fruit, crops, co-operation and markets, statistics and publications, agricultural representatives, colonization and immigration, Agricultural Development Board and the Ontario Marketing Board. The Department is responsible for the administration of the Ontario Agricultural College, the Ontario Veterinary College, the Kemptville Agricultural School, the experimental farms at Guelph, Ridgetown and Vineland, and the demonstration farms at New Liskeard and Hearst.

Manitoba.—The Manitoba Department of Agriculture includes an agricultural extension service, a dairy branch, a publications and statistics branch, a live-stock branch, a co-operative marketing branch, and a weeds branch. It also conducts the Manitoba branch of the Employment Service of Canada.

Saskatchewan.—The work of the Department of Agriculture is chiefly administrative. It includes the following principal branches: live stock, field crops, dairy, statistics, co-operation and markets, the bee division and the debt adjustment bureau. The Live Stock Branch provides the organization for examining and licensing stallions, purchasing and selling cattle, sheep and hogs to farmers on credit terms, and registering brands for live stock. Pure-bred sire areas are being created under statutory authority in order to eliminate undesirable sires and improve the quality of live stock. The poultry industry is promoted through the flock-culling service, the turkey-grading service and the approved hatchery policy. The Field Crops Branch aids in promoting better crops and providing control measures for suppressing insect and weed pests. The Dairy Branch directs the grading of cream at all the creameries, promotes herd improvement through cow-testing and administers the provisions of the Dairy Products Act with respect to licensing creamery operators, cream testers, and the bonding of creameries. The Statistics Branch, in co-operation with the Dominion Bureau of Statistics, maintains a crop-reporting service and gathers data annually respecting the crops and live stock of the province. The Co-operation and Markets Branch grants charters to co-operative associations under the Co-operative Associations Act, promotes co-operative stock shipping and poultry marketing and maintains an exchange service by a weekly news letter through which buyer and seller are brought together. An Apiary Division has been organized to assist bee-keeping which is developing substantially. Agricultural societies are organized by the Department and grants are paid through the Department, while direction of the activities of societies is centered in the College of Agriculture of the University of Saskatchewan.

Alberta.—The Alberta Department conducts the following main services: agricultural schools and demonstration farms, field crops, dairy, live stock, veterinary, poultry, apiaries, fairs and institutes, branding, game regulation, women's bureau service, provincial publicity bureau, crop reports and statistics, marketing services, district agriculturists and a branch looking after the fur farm leases of the province.

The attention of the Department has recently been given to the development of apiculture and a Provincial Apiarist is engaged in this work. Increased encouragement is being given to the live-stock industry through the "Pure-bred Bulls Purchase Act", and in giving supervision to the feeding plan for beef cattle now being carried out by the "Red Label" Beef Association. Increasing efforts are being made to cope with the weed menace and encouragement is being given to the sale and production of registered seed. The poultry industry is also receiving

increased attention. Money is expended each summer in connection with soil survey work, and effort is being directed towards the improvement of agricultural machinery.

British Columbia.—The Department of Agriculture consists of three main divisions which deal with: general administration, animal industry and plant industry.

The extension service with representatives located in 15 agricultural districts is directly under general administration, along with the Markets Branch. The Animal Industry Division includes: dairy, poultry, veterinary and general live-stock branches, as well as brands inspection and junior club work. The Plant Industry Division includes: plant quarantine, disease and pest control, pathology and entomology, apiary inspection, field crops and horticultural activities.

Particular attention has been given to the development of a live-stock policy, by which the favourable climatic conditions of the Coast districts of British Columbia will enable farmers to finish live stock ready for the market at seasons when weather conditions are not favourable in other parts of Canada. This policy has been devised with the object of enabling British Columbia farmers to supplement the work of the prairie live-stock men in maintaining a continuous supply of well-finished animals for the market.

The British Columbia Department of Agriculture through its Dairy Branch has compiled its initial list of pure-bred sires (of the four dairy breeds) which have five or more daughters with records of production. Where known the records of the dams of these daughters are also given, offering opportunities for comparison. Although the full value of this service is not realized as yet, the breed associations have expressed approval of the undertaking. It enables them to recognize worthy sires in time and avoids their being lost or prematurely killed through ignorance of their value.

Subsection 3.—Dominion and Provincial Agricultural Experimental Stations.

Amongst the most important contributions of Canadian Governments to the development of agriculture throughout the country, is the maintenance of agricultural experimental stations, where research work in both plant and animal breeding and adaptation to climatic conditions is carried on. Already this work has had a profound effect in the improvement of Canadian agriculture. The introduction during recent years of Marquis wheat is an outstanding example, and it is of interest to note that other newer wheats, particularly Garnet, also originated by the experimental farms, may in the near future replace the Marquis in large areas. Among the earlier experiments undertaken, the results of which have passed permanently into good Canadian farm practice, may be mentioned those relating to early seeding, summer fallowing, the use of farmyard manure, the fertilizing value of clover crops and the introduction of suitable grasses and clovers. Both the common red clover and alfalfa now enter into rotations as the result of experiments and efforts to obtain hardy strains and to discover means of resistance to winter-killing. Further experiments with earlier-ripening and drought-resisting cereals are now being carried on, each new discovery increasing the cultivable area of Canada. Other researches relate to the production of frost-resisting fruit trees for the Prairie Provinces. This research work has already had a profoundly ameliorating effect upon Canadian agriculture. Statements regarding the work now under way at the Dominion Experimental Farms and Stations and at Provincial Agricultural Colleges and Experimental Stations follow.

(A) Dominion Experimental Farms and Stations.¹

Inaugurated in 1886 by Act of Parliament (49 Vict., c. 23), the Dominion Experimental Farms system was at first made up of the Central Farm at Ottawa and four branch farms: one at Nappan, Nova Scotia, for the Maritime Provinces; one at Brandon for Manitoba; one at Indian Head for the Northwest Territories; and one at Agassiz for British Columbia.

The opening up and rapid settlement of the Dominion have led to a corresponding increase in the number of experimental farms and stations.¹ These, with an experimental fox ranch, now total 29, with a total acreage of 15,626, as compared with the original five farms, with a total acreage of 3,472, established in 1886. The following list shows the present number of farms and stations, with the acreage of each and the date of establishment.

DOMINION EXPERIMENTAL FARMS AND STATIONS, 1931.

Farm or Station.	Province.	Acreage.	Date Estab- lished.
Central Farm, Ottawa.....	Ontario.....	825.5	1886
Kapuskasing Station.....	Ontario.....	1,270	1916
Harrow Station.....	Ontario.....	198.3	1909
Charlottetown Station.....	P.E.I.....	173.1	1909
Summerside Fox Ranch.....	P.E.I.....	12	1925
Nappan Farm.....	Nova Scotia.....	465	1886
Kentville Station.....	Nova Scotia.....	452.9	1912
Fredericton.....	New Brunswick.....	525	1912
Ste. Anne de la Pocatière Station.....	Quebec.....	319	1911
Cap Rouge Station.....	Quebec.....	345.3	1911
Lennoxville Station.....	Quebec.....	600	1914
Farnham Station.....	Quebec.....	95	1912
La Ferme Station.....	Quebec.....	1,200	1916
L'Assomption Station.....	Quebec.....	160	1928
Brandon Farm.....	Manitoba.....	842	1886
Morden Station.....	Manitoba.....	614	1915
Indian Head Farm.....	Saskatchewan.....	1,320	1886
Indian Head Forest Nursery Station.....	Saskatchewan.....	480	2
Sutherland Forest Nursery Station.....	Saskatchewan.....	320	2
Rosthern Station.....	Saskatchewan.....	650	1908
Scott Station.....	Saskatchewan.....	520	1910
Swift Current Station.....	Saskatchewan.....	800	1920
Lacombe Station.....	Alberta.....	396	1907
Lethbridge Station.....	Alberta.....	500	1906
Invermere Station.....	British Columbia.....	49.6	1912
Windermere Station.....	British Columbia.....	425	1923
Summerland Station.....	British Columbia.....	545	1914
Agassiz Farm.....	British Columbia.....	1,400	1886
Sidney Station, Vancouver Island.....	British Columbia.....	130	1912

In addition there are 9 sub-stations, *viz.*:—Regina, Sask.; Wainwright, Fort Vermilion and Beaverlodge, Alberta; Fort Smith, Resolution, Providence and Good Hope, Northwest Territories; Horse Farm, St. Joachim (operated from Cap Rouge), Quebec. There is also the Dominion Range Experiment Station at Manyberries, Alberta, and a special Forage Crops Research Station at the University of Saskatchewan, Saskatoon. Experimental work under the Division of Illustration Stations is conducted on 13 farms in Prince Edward Island, 15 in Nova Scotia, 18 in New Brunswick, 58 in Quebec, 19 in Ontario, 15 in Manitoba, 31 in Saskatchewan, 21 in Alberta and 25 in British Columbia. Small experimental plots are also being operated at several points along the line of the Hudson Bay Railway.

¹The five original farms established in 1886 are known as "Experimental Farms"; those added since are styled "Experimental Stations". No distinction in the work is implied by these titles.

²Transferred from the Forest Service, Department of the Interior to the Department of Agriculture in 1931.

Organization of the System of Experimental Farms.—The Central Farm at Ottawa, as its name implies, is the centre or headquarters of the system. Thereat are stationed the Director, having control and general supervision of the whole, and the chief technical officers, each having charge of his special line of work, both at the Central Farm and the branch farms. At Ottawa, the policy to be pursued throughout the system is settled by agreement after discussion by the Director, the technical officers, and the superintendents on whose branch farms the work is to be conducted. The technical staff at Ottawa supervises the actual experimental work at the Central Farm. At the branches, the superintendents are in charge of the carrying out of the various lines of general experiment, and also conduct experiments of local importance.

The divisions at Ottawa, which represent the different lines of work carried on throughout the system, and have each a technical officer in charge, are as follows: (1) Animal Husbandry; (2) Bacteriology; (3) Bees; (4) Botany; (5) Cereals; (6) Chemistry; (7) Extension and Publicity; (8) Economic Fibre Production; (9) Field Husbandry; (10) Forage Plants; (11) Horticulture; (12) Illustration Stations; (13) Poultry and (14) Tobacco. Briefly the main lines of the work of these divisions are as follows:—

Animal Husbandry.—This division engages in work with beef cattle, dairy cattle and dairying, horses, sheep and swine, and undertakes experiments in the breeding, feeding, housing and management of each of these classes of live stock. Under this Division also is operated the work in breeding cattle and hybrid buffalo at Wainwright, Alberta.

Bacteriology.—The work of this division is of two types, routine and research. The former includes the bacteriological analysis of water, milk, foods and feeding stuffs, soils and soil condiments, and the manufacture and furnishing of nitro-cultures for legume growing. The main work is of an investigational nature, in which close co-operation with the other divisions is maintained in research work having a bacteriological bearing.

Botany.—The work of this division falls into two classes, economic botany and plant pathology. The former includes the study of medicinal, poisonous and economic plants. Different varieties and strains of fibre plants are also studied and special attention is given to the life history and control of weeds. The Division also has charge of the arboretum at the Central Farm. In plant pathology, in addition to the pathological laboratory at Ottawa, there are laboratories at Charlottetown, P.E.I.; Kentville, N.S.; Fredericton, N.B.; Ste. Anne de la Pocatière, Que.; St. Catharines, Ont.; Summerland and Saanichton, B.C. In addition, three large laboratories for the study of rusts and other grain diseases are maintained at Edmonton, Alta., Saskatoon, Sask., and Winnipeg, Man. Investigations are being conducted into diseases affecting forest trees, fruit trees, cereals, small fruits, potatoes, vegetables and tobaccos.

Cereals.—In the Cereal Division, the work comprises the production, by cross-breeding and selection, of new varieties of grains and the testing of these as to their suitability for various parts of Canada. All approved varieties are made available for propagation by farmers. Among the more important varieties produced in this division and now widely grown in Canada are Marquis and Huron wheats, Banner Ottawa 49 oats, and Arthur peas. Two interesting varieties originated by this division are the Garnet and Reward wheats, now being tested by farmers; they ripen not quite as early as Prelude but yield better. The division also carries on extensive milling and baking tests. The expansion of breeding work especially for disease resistance, and the creation of an extensive plan of co-operative experiments with farmers, are two developments of recent years.

Chemistry.—The work of the Division of Chemistry comprises the analysis of fodders and feeding stuffs, fertilizers, soils, well waters, insecticides, fungicides, etc. It also assists other divisions in chemical problems and does a large amount of investigational and analytical work for other Branches and Departments. Field tests with various kinds and quantities of fertilizers are carried on by this division at a number of the branch farms and stations.

Extension and Publicity.—This division acts as a connecting link between the experimental farms and the farmer, by making the work of the farms as widely known as possible. Two chief means used are exhibits at as many fairs as possible each year and extension of the departmental mailing lists. The departmental mailing lists are maintained by the Publications Branch of the Department.

Economic Fibre Plants.—The division studies the areas in Canada suitable for fibre production, the best varieties and strains of seed of fibre plants (flax and hemp), cultural methods, harvesting, retting and scutching processes, etc. Chiefly for demonstrational purposes, the division is conducting extensive co-operative trials at Forest, Ont., Ste. Anne de la Pocatière, Que., Kentville and Lunenburg, N.S.

Field Husbandry.—This division applies, under field conditions, the results obtained by other divisions directly engaged in scientific research. Some of the main lines of work under way are tests of fertilizers, moisture requirements of various crops, methods of drainage, rotations and cultural methods. Data of cost of production of field crops are gathered in connection with this work. Range land investigations are also under way.

Forage Plants.—The division has for its work the originating and variety testing of grasses, leguminous forage plants, field roots and Indian corn; plant breeding with these; the collection of genera and species likely to be of value as forage plants; the study of the possibilities and methods of growing root seed, including sugar beets, in Canada, and the distribution for trial of seed of varieties newly obtained and not available commercially. To meet the need for more concentrated effort in forage crops breeding and research a special Dominion Forage Crops Laboratory has been established at the University of Saskatchewan by mutual agreement with the university authorities. This new Laboratory will be under the direction of the Dominion Agrostologist and special attention will be given to intensive work in the breeding of drought resistant and hardy forage crops suitable for the different climatic conditions of Western Canada.

Horticulture.—The work of the Division of Horticulture falls under four main heads: vegetable gardening, orcharding and small fruits, ornamental gardening and plant breeding. In the three first named, the testing of varieties is a main feature, with a view to ascertaining the hardiest, earliest, best-yielding and most disease-resistant sorts. In plant breeding, the aim is the improvement of existing sorts by cross-breeding. Greenhouse work is also given special attention at Ottawa. Canning experiments and demonstrations are carried on. Much co-operative work with farmers in orchard experiments, blueberry culture, etc., is under way.

Illustration Stations.—This division forms another connecting link between the experimental farms and the farmer. The stations are now 215 in number. Each is located on the farm of a representative farmer, who does the work according to directions framed to illustrate the best rotations, the best varieties of crops and the best cultural methods, as determined by the work of years on the experimental farms.

Poultry.—The scope of the work of the Poultry Division has been greatly extended during the last few years. It now covers the following main lines of

investigation: artificial and natural incubation, poultry breeding, systems of breeding and rearing, production of heavy-laying strains, feeding for eggs and table, and housing of poultry. Poultry survey work, *i.e.*, the endeavour to get groups of farmers in various localities to keep accurate records of their poultry costs and returns, is already showing results in the better housing, breeding and care of the farm flock. Egg-laying contests and registration work are carried on. Investigations in poultry diseases are extensively conducted in co-operation with the Health of Animals Branch.

Tobacco.—The Tobacco Division deals with the breeding, variety tests and cultural methods, the warehousing and marketing of tobacco. A complete analysis of the soils of the tobacco-producing regions of Canada is being made. During the growing season, inspectors examine the tobacco fields of as many growers as possible with a view to suggesting the best cultural methods and means of combating diseases and insect pests. Co-operative trials amongst farmers are extensively conducted.

In addition to the work done by the Divisions of Extension and Publicity and Illustration Stations, the results of the work of the experimental farms are made available to the farmer: (1) by correspondence; (2) by publications; (3) by "Seasonable Hints", a 16-page pamphlet, brought out every three months, with a circulation of about 505,000 and now in its sixteenth year; and (4) by articles in the press. The farm officers devote considerable time each year to lecturing, demonstrating, judging at fairs and assisting at short courses in agriculture. Excursions to the various farms are also a valuable means of bringing the work to the attention of the farmer.

(B) Provincial Agricultural Colleges and Experimental Stations.

Under the above heading, outlines of the work done at provincial agricultural colleges and experimental stations were given by provinces at pp. 198-203 inclusive of the 1930 Year Book. The interested reader is referred to that volume, and to the following provincial publications for information concerning courses and programs of work at these institutions:—

Nova Scotia.—Annual Report of the Department of Natural Resources for Nova Scotia; College Prospectus of the College of Agriculture, Truro, N.S.

Quebec.—The Annual Report of Macdonald College, Ste. Anne de Bellevue, Quebec, and the prospectuses and annual announcements of the School of Agriculture, Ste. Anne de la Pocatière, and the Oka Agricultural Institute, Lake of Two Mountains, Quebec.

Ontario.—Annual Report of the Ontario Agricultural College and Experimental Farm, Guelph, Ont.

Manitoba.—Annual Report of the Manitoba Agricultural College, Winnipeg, Man.

Saskatchewan.—Annual Report of the College of Agriculture, University of Saskatchewan, Saskatoon, Sask.

Alberta.—Annual Report of the College of Agriculture, University of Alberta, Edmonton, Alta.

British Columbia.—Annual Report of the Faculty of Agriculture, University of British Columbia, Vancouver, B.C.

NOTE.—The Statistics of Agriculture which ordinarily follow here as Section 2 of this chapter have been transferred to Appendix III at the end of this volume in order to include the latest possible figures compiled from the census of 1931.

CHAPTER IX.—FORESTRY.¹

Section 1.—Physiography, Geology and Climate as Affecting the Forests.

The Dominion of Canada may be roughly divided into three main drainage areas—the Pacific slope west of the Rocky mountains; the Great Plains region draining into the Arctic ocean and Hudson bay; and the basin of the Great Lakes and the St. Lawrence, together with the Maritime Provinces. Each of these three regions supports a distinct type of forest growth.

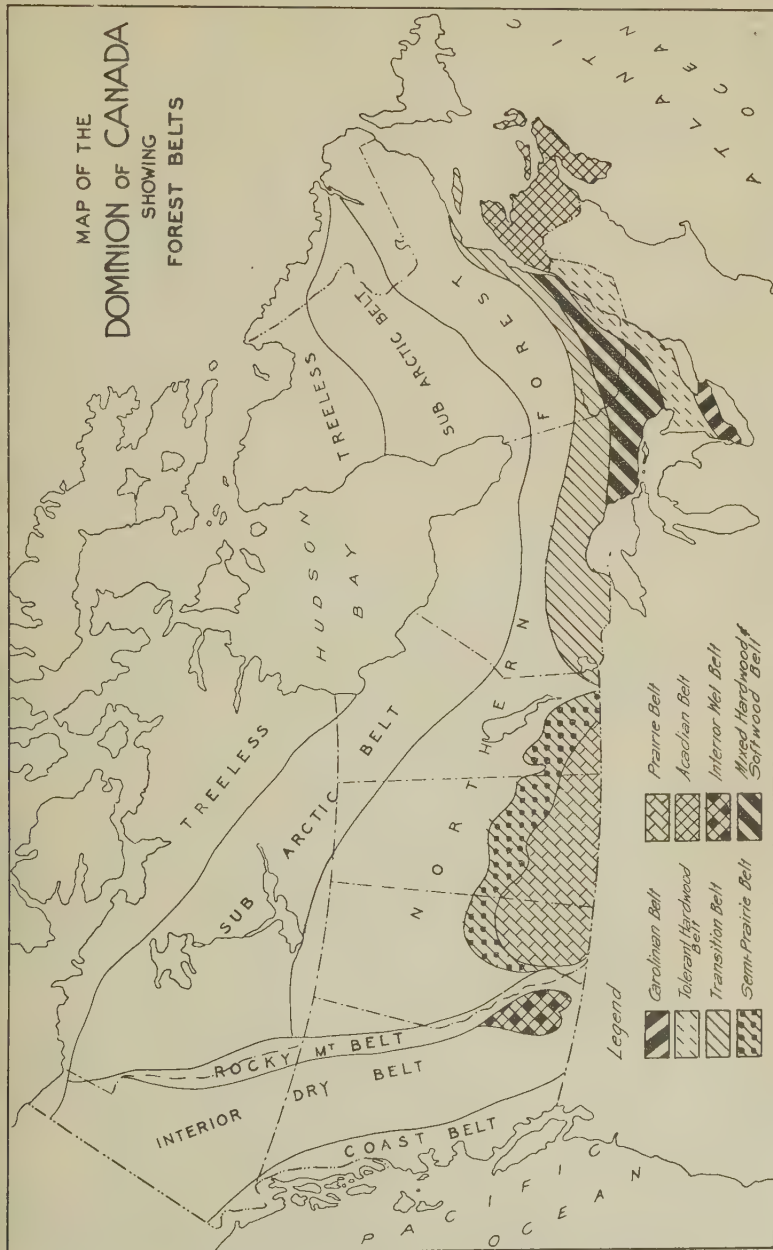
The Pacific Slope.—The Pacific slope is characterized by numerous systems of mountains running approximately parallel and extending from the southeast to the northwest. The Rocky mountains vary in elevation from 5,000 to 13,000 feet above sea-level, with numerous peaks extending well above 10,000 feet. Between this system and the Pacific are: the Columbian system, comprising the Selkirk, Monashee and Caribou mountains; the Interior Plateau system; the Cassiar and Yukon systems; the Pacific system, comprising the Cascade, Coast and lesser ranges, terminating with the sunken Insular system whose upper elevations form Vancouver island, the Queen Charlotte group and other coast islands. The chief rivers follow the valleys between these ranges, breaking through in some cases along the shorter cross valleys from east to west.

The Rocky mountains are formed chiefly of Palaeozoic rocks, as are also the islands off the coast. The Coast range is almost entirely granitic and the Selkirks are Precambrian or Cambrian. The intervening ranges are of mixed formations, varying from rocks of sedimentary origin to granites. The best soil in British Columbia is concentrated in valley bottoms or alluvial deltas, and the purely agricultural area has been estimated at about 10 p.c. of the land area.

The climate along the coast is mild and humid, with a mean annual temperature varying from 44° to 49° F. The precipitation is the heaviest in Canada, varying from 40 to 120 inches. The greater part of this precipitation falls during autumn and winter however, only 30 p.c. falling during the growing season, to which fact is sometimes ascribed the scarcity of deciduous-leaved forest growth, which requires more moisture during the growing season. In any case, coniferous tree growth in this region is the most luxuriant in Canada, and the forests have the most rapid rate of growth, the largest individual trees and the heaviest stands of timber extending from sea-level up to elevations of 3,500 or 4,000 feet. The Interior Dry belt of British Columbia has a low annual precipitation, varying from 10 to 20 inches. Extremes of temperature from 100° F. to -45° F. make this a region unfavourable to tree growth. The winds from the Pacific, which precipitate most of their moisture on the Coast and Cascade mountains, cross this interior plateau, leaving its southern part in a semi-arid state, and give up a large part of what moisture remains when they reach the Selkirk and Rocky mountains, forming what may be termed the Interior Wet belt, centred in the Columbia valley. Here the precipitation averages over 30 and sometimes reaches 60 inches, taking the form of snow in higher altitudes. Temperatures vary from 100° F. to -17° F. In the Rocky Mountain range itself the climate is more extreme and variable than to the westward.

¹ Material in this Chapter has been prepared in co-operation with Roland D. Craig, F.E., of the Forest Service of the Department of the Interior, by R. G. Lewis, B.Sc.F., Chief of the Forest Products Branch of the Dominion Bureau of Statistics. This Branch collects and compiles statistics relating to Forest production and publishes four annual printed reports covering the lumber industry, the pulp and paper industry and the wood-using and paper-using industries of Canada. These printed reports are usually preceded by a number of preliminary mimeographed reports, one for each important industry or group of industries. For detailed list of publications see Chapter XXIX.

MAP OF THE
DOMINION OF CANADA
SHOWING
FOREST BELTS



The Great Plains.—East of the Rockies lies the Great Plains region, composed of a variety of topographical types. From the foothills of the Rockies, the country slopes gradually eastward and northward. The prairie country extends from the International Boundary to the 55th parallel along the foothills, gradually tapering down toward the east to a point near the lake of the Woods. Of this area, 105,000 square miles is now almost entirely treeless, with rich fertile soil, and is at present a purely agricultural or pastoral country. Whether its present treeless condition is due to climatic or other causes is problematical, but the presence of isolated patches of tree growth in situations well protected from fire, the ease with which these natural groves can be increased and new plantations established by artificial planting and protection from prairie fires, would seem to indicate that repeated burning accounts, at least in part, for its present treeless state. The underlying rocks are of the Cenozoic and Mesozoic eras. The climate of Alberta is extremely variable in winter, due to a warm, dry wind known as the *Chinook*, which blows from the south and southwest and extends its influence from the International Boundary to the Peace river and eastward to Regina in Saskatchewan. In summer the isotherms run almost due north and south in Alberta. Rainfall varies from 15 to 20 inches. The temperature in Manitoba has an absolute recorded range of 150° F., with a mean range of 71°. Saskatchewan and Alberta are more temperate, especially where they are affected by the *Chinook*. North of the treeless prairies is a region largely unexplored, covered at first by a comparatively light forest growth which toward the north and east gives way to the sub-Arctic "tundra"—a region of muskeg and bare, glacier-worn rocks of the Laurentian and Precambrian types.

These Laurentian rocks in Canada form the Archæan or Canadian Shield, with a distinct type of topography. This rock formation covers a huge irregular triangle with its apex near the Thousand islands in the St. Lawrence, from which point one arm extends northwesterly to the mouth of the Mackenzie river and the other northeasterly down the St. Lawrence valley to include the Labrador peninsula. This region has been reduced to a peneplainated condition by repeated glacial action which has worn down the high elevations and scoured out most of the soil except in isolated depressions. It is covered with innumerable lakes, muskeg or bog, and rivers. The southern portion of the Shield is to a great extent agricultural land, actual or potential, much of which is still heavily forested. Toward the north tree growth becomes lighter and the climate as a rule becomes too severe for continuous successful agriculture. Still further toward the north, tree growth ceases and the region merges into the same belt of sub-Arctic "tundra" already mentioned.

The St. Lawrence Basin and the Atlantic Slope.—The basin of the St. Lawrence and Great Lakes contains a variety of topographical and geological types. The north shores of lake Superior and Georgian bay, the upper Ottawa River valley and the southern part of Labrador, are part of the Laurentian Shield already described. Here the climate is tempered in part by the presence of the lakes and the gulf of St. Lawrence, but is, nevertheless, severe and variable. To the south, soil and climate improve, and the southwestern peninsula of Ontario, the north shore of lake Ontario and the St. Lawrence valley are all essentially agricultural land. The rock here is of sedimentary origin, mostly of Palæozoic age.

The Maritime Provinces, with a general slope towards the Atlantic, are varied in topography and geology. The climate resembles that of southern Ontario, being modified by the presence of the ocean. Precipitation is above 35 inches annually. This region supports a type of forest similar to that of the southern portion of the Archæan Shield.

Section 2.—Main Types of Forest Growth.

Physiographic, climatic and soil conditions in Canada seem to favour the coniferous type of forest. While the more fertile portions of Ontario, Quebec and the Maritime Provinces support a heavy virgin growth of hardwoods, the greater part of Canada's forest area is covered with spruce, pine, balsam, Douglas fir and other coniferous softwoods. Three main groups of forest growth in Canada follow the main physiographic divisions already mentioned. These groups are the Cordilleran, the Great Plains and the Eastern forests.

The Cordilleran Forests.—The Cordilleran forest, which covers the greater part of the Pacific slope, may be subdivided into the Coast belt, the Interior Dry belt, the Interior Wet belt and the Rocky Mountain belt. The Coast belt includes several distinct forest types, their character being determined by variations in climatic and topographic conditions, among which altitude and precipitation have had the greatest effect on forest growth. Douglas fir and red cedar are the principal species in the southern portion of the belt at altitudes up to 2,000 or 2,500 feet. With these are associated hemlock, white pine, amabilis and lowland fir. Toward the north and at higher altitudes, Douglas fir disappears and red cedar and hemlock are the important trees, with amabilis fir and yellow cypress as subsidiaries. In the Queen Charlotte islands and along the northern part of the coast, Sitka spruce and western hemlock form a lowland type.

In the Interior Dry belt western yellow or "bull" pine predominates at low altitudes, bordering on the grass lands. Douglas fir gradually increases in importance until it predominates at elevations up to 3,500 and 4,500 feet. Western larch covers a limited area usually between the true yellow pine and Douglas fir types. At the northern latitudinal and upper altitudinal limits of the Douglas fir type, an Engelmann spruce type develops, which merges into a spruce-alpine fir type at still higher altitudes. Lodgepole pine has taken the place of Douglas fir, Engelmann spruce and, in some cases, yellow pine on burned-over areas, and has become to a considerable extent established as a distinct type.

Forest types similar to those of the coast have developed in the Interior Wet belt. In the southern portion of this belt, red cedar predominates in the wetter situations, mixed with Douglas fir, Engelmann spruce, white pine, hemlock, western larch, alpine fir, lowland fir and cottonwood. On the benches and lower valley slopes, hemlock and cedar are the important species. Engelmann spruce replaces hemlock at higher elevations, cedar gradually disappears and the spruce-alpine fir type stretches up to timber line. To the north, Engelmann spruce and alpine fir are more prominent and the other species are gradually eliminated.

The Rocky Mountain belt includes portions of the Dry Belt types to the south and those of the Interior Wet belt farther north. Otherwise the typical forest of the Rocky mountains is made up of Engelmann spruce and some white spruce, with an increasing proportion of alpine fir as the altitude increases. This type has suffered so severely from fire, especially on the dry eastern slopes, that lodgepole pine has established itself permanently in some cases and temporarily in others on burned-over areas.

In the sub-Arctic belt, comprising the Yukon plateau and that part of the Rocky Mountain system north of 58°, the general elevation is over 4,000 feet, the climate is severe, the growing season short and precipitation scant. As a result, tree growth is slow and confined to favourable sites in valleys. The timber is

small and of poor quality. It is, however, of great local value in the mining industry and to trappers. The principal type is the spruce-alpine fir, with lodgepole pine on poorer sites, and poplar and willow on richer soils on burned-over areas.

Most of the commercially important species of the Cordilleran region are confined to British Columbia. The spruce-fir-lodgepole pine type of the northern interior extends across the Rockies into the foothills of Alberta. Certain species, such as Douglas fir, Engelmann spruce, lowland and alpine fir and lodgepole pine, are also found in western Alberta, but in few cases do they extend any great distance eastward.

The Forests of the Great Plains.—The Great Plains region may be divided into the Prairie, Northern Forest and sub-Arctic belts. There are no great variations in altitude in the region, and latitude and soil conditions, especially drainage, determine the distribution of forest types. The Prairie belt in southern Alberta, Saskatchewan and Manitoba extends north from the International Boundary for 200 to 400 miles. Patches of tree growth in protected situations are made up chiefly of aspen poplar, with some white spruce and jack pine. North of this purely agricultural and pastoral area is the great Northern Forest belt, from 300 to 400 miles wide, which extends from Alaska to Labrador, covering the greater part of the Laurentian Shield as far as the limits of commercial tree growth. Originally, white spruce predominated over this entire belt and it still forms the most important type commercially, although it has suffered severely through forest fires. In the East, balsam fir is an important associate, and the spruce-balsam fir type makes up most of the pulpwood resources of Eastern Canada. The black spruce type, frequently associated with eastern larch (tamarack), occupies poorly-drained areas within this belt. Enormous areas have been burned over by forest fires. Aspen poplar has replaced the spruce and balsam on the best soil in these areas, and is now the most prevalent species, although it will eventually be replaced by conifers where natural reproduction is possible. Over vast areas, however, there is no immediate prospect of securing a return to coniferous forest by natural agencies. Jack pine has taken possession of the dryer, lighter soils, in some cases permanently. Paper birch comes in with aspen poplar toward the east, and balsam poplar occurs in the moister situations. Jack pine, aspen and balsam poplar reach a higher development along the Peace river in northern Alberta than they do elsewhere in America. Along its northern margin this belt merges into the sub-Arctic "tundra", with tree growth confined to narrow strips along waterways. Vigorous tree growth and fairly large timber are found along these shallow valleys as far north as 67°, indicating that soil conditions, especially drainage, are more important than climate in defining the limits of tree growth. To the northward, balsam fir disappears early from the forest growth, followed by balsam poplar, jack pine, aspen and paper birch, leaving white spruce, black spruce, tamarack or larch, and willow to define the northern limit of tree growth. This may be roughly indicated by a line drawn from the mouth of the Mackenzie river on the Arctic ocean to the mouth of the Churchill river on Hudson bay and across the Labrador peninsula at about 58° N. latitude.

The Eastern Forests.—In southeastern Canada a number of belts of forest growth with distinctive characteristics are recognized. The hardwood belts include the Carolinian zone, confined to the north shore of lake Erie and the western part of lake Ontario. This is important only as forming the northern fringe of a type which covers a large area in the central Eastern United States, and includes a number of species such as tulip, sassafras, etc., not found elsewhere in Canada.

North of this zone, still in the purely agricultural and pastoral area, the original forests were of the commercially important hardwoods, such as maple, elm, basswood, oak, yellow birch, hickory and beech, with patches of pine, hemlock and other conifers on the lighter soils. This area has been largely cleared and devoted to agriculture, and the original forest type is to be seen only on farmers' woodlots.

Since the beginning of the lumbering industry in Canada, the region north of this belt, extending, roughly speaking, to the height of land between the St. Lawrence and Hudson Bay waters, has been the centre of the most extensive exploitation, and still occupies that position as far as Eastern Canada is concerned. The forest types which still exist in this region vary considerably owing to soil and other conditions, but generally speaking white pine occupies the better situations on the lighter soils, and reaches its highest development in this belt. With it is frequently associated the red or Norway pine. On heavier soils, spruce, hemlock and the tolerant hardwoods also form an important part of the stand. Cedar, tamarack and black spruce form typical stands in poorly drained situations. Hardwood ridges, carrying chiefly maple and yellow birch, occur in the southern part of this belt. These, with hemlock, extend north to a line running approximately from the northeast corner of lake Superior to the mouth of the Saguenay river. The extensive lumbering operations of the past century, together with repeated forest fires, have greatly modified these original types. The exclusive cutting of white and red pine, practised until recently, has resulted in the displacement of these species by spruce, balsam fir, jack pine and the hardwoods, the spruce-balsam fir pulpwood areas being the most valuable type remaining. Jack pine has come in extensively on burned-over areas on lighter soils and in some cases has taken permanent possession of such sites. On account of its value for railway ties and pulpwood and the ease with which it can be grown it is not at all an undesirable species to perpetuate. Aspen and paper birch are also rapidly becoming established as temporary types. Along its northern border, this mixed hardwood and softwood type merges into the northern forest belt already described, with the disappearance of first the hemlock and the tolerant hardwoods and then the white and red pines.

The Acadian belt covers the Maritime Provinces and the south shore of the St. Lawrence in Quebec. The forest is similar to that of the New England States, being characterized by red spruce. With this are found varying proportions of white spruce and balsam fir. In the mixed softwood and hardwood type, which also occurs in this belt, white pine and hemlock occur, with yellow birch, maple and beech representing the commercial hardwoods. Cedar is fairly abundant in the western portion of this region. Burned-over areas in the Acadian belt are chiefly occupied by aspen and white birch as temporary species.

Section 3.—Important Tree Species.

In Canada there are approximately 160 different species and varieties of plants reaching tree size. Only 31 of these are coniferous, but their wood forms 80 p.c. of our standing timber and 95 p.c. of our sawn lumber. While the actual number of species of deciduous-leaved trees seems large in comparison to their commercial importance, out of a total of some 90 species and varieties only four or five are worthy of comparison with the conifers. A detailed description of the more important species of Canadian forest trees was given on pp. 282-285 of the 1924 Year Book.

Section 4.—Forest Resources.

Areas.—The total land area of Canada, revised according to the Labrador Boundary Award of 1927, is estimated at 3,510,008 square miles, of which 560,000 square miles is considered as being suitable for agricultural or pastoral purposes. According to the 1921 census about 220,134 square miles of this agricultural land was occupied and about 115,770 square miles was improved.

The total area covered by existing forests has been estimated at 1,151,454 square miles, of which about 82,260 square miles is land which, if cleared, would be suitable for agriculture. Under the most economic arrangement about 52,000 square miles of this last area would be cleared and devoted to field crops and pasture and the remaining 30,000 square miles would be, and no doubt will be, left under forest cover in the form of farmers' woodlots. This leaves an area, of about 1,100,000 square miles of land which could be utilized to the best advantage under forest.

Of the total area under forest at the present time, amounting to 1,151,454 square miles and including the 82,260 square miles of agricultural land, about 200,000 square miles carries mature merchantable timber, 111,234 square miles carries immature but nevertheless merchantable timber and 554,646 square miles carries young growth which if protected from fire and other damage will eventually produce merchantable timber. All this area is so situated as to be commercially exploitable at present. The remaining 285,574 square miles is considered as inaccessible or unprofitable to operate under present conditions. As the result of the constant and inevitable improvement in conditions affecting profitable exploitation, such as the extension of settlement and transportation facilities, the increasing world scarcity of forest products, and the ever increasing demand for these products, due to the development of industry and the discovery of new uses for wood, and the improvements in the methods, equipment and machinery used in logging and manufacturing forest products, most of this inaccessible timber will eventually become commercially exploitable.

In Canada as a whole about 8.4 per cent of the total forest area has been permanently dedicated to forest production. Previous to the transfer of the natural resources to the Western provinces in 1930, some 33,023 square miles of this reserved area comprised National Forests but these have now in large part become Provincial Forests. The distribution of Provincial Forests, Provincial Parks and National Parks among the various provinces is shown in the following statement.

FOREST RESERVES AND PARKS IN CANADA, 1932.

Provinces.	Provincial Forest Reserves.	Provincial Parks.	National Parks.
	sq. miles.	sq. miles.	sq. miles.
Nova Scotia.....	—	—	31 (acres)
New Brunswick.....	—	—	78 (acres)
Quebec.....	28,960	7,288	—
Ontario.....	19,607	4,889	15
Manitoba.....	3,680	—	1,148
Saskatchewan.....	9,609	6	1,869
Alberta.....	19,433	3	24,616
British Columbia.....	15,964	2,221	1,715
Totals.....	97,253	14,407	29,363

Of the total forest area 9.6 p.c. has been permanently alienated, being owned in fee simple by private individuals or corporations. On 13.2 p.c. of the area the Crown still holds title to the land but has alienated the right to cut timber under lease or licence. So far 77.2 p.c. has not been alienated in any way. It may be said that 90.4 p.c. of Canada's forest area is still owned by the Crown in the right either of the Dominion or the provinces and, subject only to certain temporary privileges granted to limit holders, may at any time be placed under forest management and dedicated to forest production.

Volume of Standing Timber.—In 1931 the total stand of timber in Canada was estimated to be approximately 214,477 million cubic feet, of which 167,636 million cubic feet was of coniferous species and 46,841 million cubic feet of broad-leaved species.

During the years 1926-30 the average annual depletion due to use was approximately 2,000 million cubic feet of conifers and 900 million cubic feet of hardwoods. The average annual loss from fire is estimated at 247 million cubic feet of conifers and 60 million cubic feet of hardwoods. Though no widespread epidemics of insects or fungous diseases have occurred in recent years, local infestations which cause considerable loss develop practically every year. In 1931 in Nova Scotia the balsam suffered severely from "gout" induced, it is believed, by minute sucking insects of the genus *Dreyfusia*, previously undescribed. In the Gaspé peninsula the spruce saw-fly became a serious menace. In the absence as yet of any basic data on which to estimate the depletion from these causes, it may be taken as perhaps 800 million cubic feet. The total annual depletion during the five-year period is therefore estimated to have been about 4,000 million cubic feet. To what extent this loss has been replaced by growth increment is not known, but, considering the preponderance of the younger age classes in the reproduction, it is believed there has been a considerable net depletion in the merchantable age classes.

Another real difficulty being met with is the matter of dividing the existing stand into merchantable timber and that which is inaccessible or unprofitable, since merchantability depends not only on the location but on the density of the stand, the demands of the market for certain species or qualities of product, and the regulations governing cutting. Light stands covering large areas may in the aggregate carry very large amounts of timber and still not be exploitable at a profit. For some species, such as aspen and white birch, which comprise three-quarters of the hardwoods, there is very little demand, and therefore these cannot properly be classed as merchantable, though accessible as far as location is concerned.

In June, 1929, a conference of the Dominion and provincial forest authorities was held in Ottawa and it was decided to undertake a national inventory of the forest resources of Canada, each authority conducting the necessary stock-taking surveys on the land under its jurisdiction. In connection with the inventory definite data are being secured regarding the depletion due to use, fire, insect damage, etc., and the increment accruing. Five years was set as an objective for the completion of an inventory of at least the more accessible parts of the area.

This national inventory, which is being organized under the direction of the Department of the Interior, and related studies of increment and decrement should shortly begin to throw new light on many problems.

Under present conditions it is doubtful whether more than 100,000 million cubic feet of conifers and 15,000 million cubic feet of hardwoods can be considered as merchantable.

1.—Estimate of Total Stand of Timber of Merchantable Size in Canada, by Regions, 1931.

Region.	Conifers.			Broad-leaved.			Totals.		
	Saw Material.	Small Material.	Total Equivalent in Standing Timber.	Saw Material.	Small Material.	Total Equivalent in Standing Timber.	Saw Material.	Small Material.	Total Equivalent in Standing Timber.
	million feet b.m.	1,000 cords.	million cubic feet.	million feet b.m.	1,000 cords.	million cubic feet.	million feet b.m.	1,000 cords.	million cubic feet.
Eastern Provinces.....	45,193	476,322	65,662	31,845	160,995	25,811	77,038	637,317	91,473
Prairie Provinces.....	17,484	275,564	36,070	9,338	159,921	20,756	26,822	435,485	56,826
British Columbia.....	275,590	47,435	65,904	490	1,756	274	276,080	49,191	66,178
Totals.....	338,267	799,321	167,636	41,673	322,672	46,841	379,940	1,121,993	214,477

Section 5.—Forest Administration.

Subsection 1.—Administration of Dominion and Provincial Timber Lands

In Canada the general policy of both the Dominion Government and the Provincial Governments has been to dispose of the timber by means of licences to cut, rather than to sell timber land outright. Under this system the State retains the ownership of the land and control of the cutting operations. Revenue is derived in the form of stumpage bonuses (either in lump sums or in payments made as the timber is cut), annual ground rent, and royalty dues collected as and when the wood is removed. Both ground rent and royalty dues may be adjusted at the discretion of the Governments so that the public may share in any increase in stumpage values, or, as has happened, reductions may be made in the rates if conditions demand them.

The Maritime Provinces did not adopt this policy to the same extent as did the rest of Canada. In Prince Edward Island all the forest land has been alienated and is in small holdings, chiefly farmers' woodlots. In Nova Scotia 76 p.c. of the forest land is privately owned; nearly half of this is in holdings exceeding 1,000 acres. In New Brunswick nearly 50 p.c. has been sold, and 20 p.c. is in holdings exceeding 1,000 acres. The percentage of privately-owned forest land in the other provinces is as follows: Quebec, 7 p.c.; Ontario, 3.3 p.c.; Manitoba, 11.3 p.c. Saskatchewan, 10.4 p.c.; Alberta, 15.7 p.c. and British Columbia, 13 p.c.

Until 1930 the Dominion Government administered the Crown lands, including timber lands, in the provinces of Manitoba, Saskatchewan and Alberta, in the Railway Belt and Peace River Block of British Columbia, and in the Yukon and Northwest Territories, but the forests as well as the other natural resources in the western provinces have now been transferred to provincial control. In all cases timber lands are now administered by the provinces in which they lie. As new regions are explored their lands are examined and the agricultural land disposed of. Absolute forest land is usually set aside for timber production, and the policy of disposing of the title to lands fit only for the production of timber has been virtually abandoned in every province in Canada. The ownership of forests by towns and communities, so common in Europe, is now beginning in Canada. Efforts are being made, especially in Quebec and Ontario, to encourage the establishment and maintenance of forests on this basis.

Timber Lands Under Dominion Control.—The National Parks of Canada Branch of the Department of the Interior administers the Dominion parks, now embracing some 29,363 square miles. These are primarily national playgrounds and game preserves, the timber being practically withdrawn from commercial use. The Dominion Lands Branch of the Department of the Interior administers and protects forest land lying north of the provincial areas. The Department of Indian Affairs administers, in trust for the Indians, all timbered areas within their reservations. Under the Board of Railway Commissioners, a Chief Fire Inspector has charge of fire protection along nearly all the railway lines in Canada.

Forest Administration in the Prairie Provinces.—Upon transfer of the resources in 1930, each province took steps toward the creation of an adequate forest service with a Provincial Forester in charge. In Manitoba the service is under the Department of Mines and Natural Resources and in its forest regulations, framed under the Manitoba Forest Act, the former Dominion Forest Reserves and Crown Timber Regulations are very largely incorporated. In Saskatchewan and Alberta a closely similar policy is being followed. In every case the central object of policy is to safeguard the regeneration of valuable species in the natural forest types. The National Forests in these provinces have practically all been retained as provincial forests and some additional reserves have been established making a total area of 32,722 square miles.

Approximately 27,335 square miles of forest lands in the Prairie Provinces are privately owned.

British Columbia.—In the province of British Columbia, the Forest Branch of the Department of Lands has administered timber lands since 1912. All unalienated lands in the province which are examined and found to be better suited to forest than to agricultural production are dedicated to forest production, and all timber lands carrying over a specified quantity of timber are withdrawn from disposal until examined by the Forest Branch. During the last few years 15,964 square miles have been set aside permanently for forest purposes. The present practice is to sell cutting rights for a stated period by public competition but licences to cut, which are renewable annually in perpetuity, have been granted for a large proportion of the accessible timber. The royalties are adjusted periodically on the basis of prevailing industrial conditions. About 3,000 square miles of timber land are privately owned.

Ontario.—Forest administration is carried out in Ontario under the Department of Lands and Forests, which is subdivided into two divisions each under a separate Deputy Minister. The Lands and Forests Division controls timber sales and the Forestry Division has charge of reforestation, protection, air service, forest surveys and investigations. The Forestry Board, consisting of representatives from forest industries, the University of Toronto Faculty of Forestry and the Deputy Minister of Forestry, functions in an advisory capacity.

In recent years the sale of saw timber has been by tender after examination with conditions covering the removal within a specified period, disposal of *débris*, etc. Much of the merchantable timber is at present held under licences granted in the past and renewable indefinitely. Pulpwood areas are usually disposed of by individual agreements for longer periods than in the case of saw timber. Manufacture in Canada was made a condition in the disposal of all softwood saw timber in 1897, of all pulpwood in 1900 and of all hardwood in 1924. In some individual pulpwood agreements the licensee must undertake not only to erect a pulp-mill

but also a paper-mill within the province, the type of mill being stipulated in the agreement. In this province about 7,972 square miles of forest land have been disposed of outright. Provincial Forest Reserves cover 19,607 square miles.

Quebec.—The Forest Service of the Department of Lands and Forests administers the timber lands in Quebec. Its powers include classification of land, disposal of timber and regulation of cutting operations. Forest protection has been since 1924 under a separate organization, the Forest Protective Service. Licences are granted after public competition and are renewable from year to year, subject to changes in royalty by the Government at any time. Grants of land in fee simple have been made in some cases under the French *régime* in Quebec, are responsible for the private ownership of about 34,173 square miles of forest land; 28,864 square miles have been reserved for forestry purposes.

New Brunswick.—The Forest Service, under the Department of Lands and Mines, and a special Forestry Advisory Commission, form the forest authority in New Brunswick. The Forestry Advisory Commission, consisting of the Minister of Lands and Mines, the Deputy Minister, the Chief Forester, a lumberman representing the licensees of Crown lands, and one representing the private timberland owners, is appointed to advise on matters of policy. At present timber lands are disposed of as in the other provinces, but in the past several grants of forest land were made to railway companies, private concerns and individuals, who now own in fee simple about 10,675 square miles of forest land.

Nova Scotia.—In Nova Scotia the greater part of the forest land, amounting to 12,300 square miles, has passed into private ownership, but the system of disposal of timber by licences to cut is now being followed. What remains vested in the Crown is administered by the Chief Forester under the Minister of Lands and Forests. Under the Minister, the Chief Forester has charge of forest protection, surveying and scaling throughout the province.

Subsection 2.—Forest Fire Protection.

The protection of forests from fire is undoubtedly the most urgent and most important part of the work of the different agencies administering forest lands in Canada. With the exception of the National Parks, the Northwest Territories and the Yukon, which remain under Dominion control, this work is now the function of the individual provinces. Up to the end of the fire season 1930, the Forest Service of the Department of the Interior was responsible for fire protection in the Prairie Provinces of Manitoba, Saskatchewan, and Alberta, and the Railway Belt of British Columbia. However, by reason of the transfer of natural resources from Dominion to provincial control, their administration is now a matter of provincial concern.

With the exception of the small province of Prince Edward Island, each of the Provincial Governments now administering its own forests, maintains a fire protection organization which co-operates with owners and licensees for the protection of all timbered areas, the cost being in part distributed or covered by special taxes on timber lands. In each province, with the exception just mentioned, provincial legislation regulates the use of fire for clearing and other legitimate purposes and provides for closed seasons during dangerous periods. An interesting development in this connection in the province of Quebec is the organization of a number of co-operative protective associations among lessees of timber

limits. These associations have their own staffs which co-operate with those of the Board of Railway Commissioners and the Provincial Government. The latter contributes in the way of money grants and also pays for the protection of vacant Crown lands lying within the area of the associations' activities.

In the matter of forest fire protection along railway lines, the provincial services are assisted by the Dominion Railway Act administered by the Board of Railway Commissioners. This Act gives to that body wide powers relating to fire protection along railway lines under its jurisdiction in Canada. Certain officers of the various forest authorities are appointed *ex officio* officers of the Board of Railway Commissioners. These officers co-operate with the railway fire-ranging staffs employed by the various railway companies, the compulsory control of all lines coming under the jurisdiction of the Board being one of the requirements of the Dominion Railway Act.

The most important single development in forest fire protection in late years has been in the use of aircraft for the detection and suppression of incipient forest fires. Where lakes are numerous flying boats can be used for detection and for the transportation of fire fighters and their equipment to fires in remote areas. Where safe landing places are few and no other lookout system has been developed, as in northern Alberta, land machines are used for the detection and inspection of fire only; but in the Laurentian area, where lakes are numerous, flying boats are used both for observation and control. Specially developed aircraft equipped with wireless are employed on forest fire-protection operations; these enable the observer to report the location of the fire as soon as it has been detected. Aircraft are now being used extensively for exploring remote areas and mapping forest lands by means of aerial photography. Waste lands and the various forest types can be mapped more accurately and more economically by this means than by ground surveys. As a general rule aircraft are used in the more remote districts, while lookout towers, connected by telephone lines or equipped with wireless, are established in the more settled and more travelled forest areas. While these agencies have to a large extent supplanted the old canoe, horseback and foot patrol for detection of fires, a large ground staff with its equipment stored at strategic points will always be necessary for the fighting of larger fires and the maintenance of systems of communication and transportation, and of fire lanes and fire guards in the forest.

The most important improvement in forest fire-fighting equipment has been the portable gasoline pumps. These pumps, which each weigh from 45 to a little over 100 pounds, can be carried to a fire by car, canoe, motor boat, automobile, aircraft, pack saddle or back pack. They can deliver efficient water pressure as far as seven thousand feet from a water supply and, when used in relays, at a much greater distance. Smaller hand pumps are also used effectively in many cases.

In addition to these improved measures, legislation has also tended to reduce the fire menace. The establishment of closed seasons for brush burning, and seasons during which permits are required for setting out fires and for travel in the forest during dangerous dry periods, have been of enormous value as preventive measures.

None of these measures would be effective without the support of the general public and in 1900 the Canadian Forestry Association was founded, its chief object being the securing of popular co-operation in reducing the forest fire hazard. This Association now has a membership of 32,000 and an income of \$136,000, mostly secured by voluntary private subscription. Fifteen of the Association's paid lecturers tour the country, using special railway lecture cars and motor trucks equipped

with self-contained motion picture equipment showing special films taken by the Association. Two high class sporting and outdoor magazines, one in French and one in English, are published monthly by the Association as educational media. Prepared lectures illustrated by slides and films are distributed to volunteer lecturers and other educational work is carried on in schools and at public meetings. The different Dominion and provincial forest authorities also carry on extensive publicity work independently and in co-operation with the Canadian Forestry Association.

Another interesting development in forest protection has been the establishing of special meteorological stations for the study of the effects of weather conditions on the fire hazard, and the broadcasting of special forecasts of hazardous fire weather.

Subsection 3.—Scientific Forestry.

Up to the present the practice of forestry in Canada has consisted chiefly in the administration and protection of existing forest areas. Some 35 square miles is now being planted out annually, largely in connection with farmers' woodlots, shelter belts, and reclamation work, although several commercial reforestation projects are being carried on by paper companies and by the Ontario Government on denuded Crown lands. The great forestry problem in Canada, however, is the management of Crown forests, first under provisional and later more intensive working plans, so as to ensure a sustained yield. To this end, forest research activities are now assuming great importance. Silvicultural investigations are receiving marked attention both from the Dominion service and some of the provincial services.

Some 200 technical foresters find employment either under the Dominion and provincial forest services or in many of the paper and lumber companies. In addition to administrative work, these men carry on forest surveys either for the estimating of timber stands and making of maps, or to determine natural growth and reproduction conditions and factors. They also direct any planting or nursery work and the regulation of commercial logging operations along forestry lines.

The Research Division of the Dominion Forest Service has established permanent forest experiment stations at Petawawa, Ontario and at Lake Edward, near Grand'Mère, in Quebec, and carries on similar experimental work at other points throughout Canada. A considerable amount of this work is done in co-operation with provincial forest services and with pulp and lumber companies.

The Forest Service of the Department of the Interior is now conducting a National Forest Inventory in co-operation with the various Provincial Governments. It is expected that in so far as the commercially accessible timber is concerned, this inventory will be completed by 1935. An important feature is that the Forest Service is conducting special rate-of-growth surveys in each province to determine the nature and extent of the natural reproduction and the annual increment now being secured under varying conditions of site and type, following cutting or forest fires. The valuable silvical data thus obtained will provide a sound basis for future forest policies.

Another important phase of forest research is found in the work of the Dominion Forest Products Laboratories in determining the best methods of forest utilization, that is, the converting of standing timber into saleable commodities with a minimum of waste.

These Laboratories, established by the Dominion Forest Service at Ottawa and in connection with the University of British Columbia at Vancouver, carry on investigatory work in forest products, covering the strength, durability and other mechanical, physical and chemical qualities of Canadian woods, methods of seasoning, preservation from decay, and chemical utilization in wood distillation and other industries. A special pulp and paper division of the laboratories is located in Montreal, the recognized business centre of the industry, in the Cellulose Institute of the Canadian Pulp and Paper Association. The division is in close co-operation in this connection with the Association and with McGill University. Much credit is due to the forestry departments of some of the pulp companies for pioneering work in forest research.

Education in forestry and allied subjects and opportunities for research are offered by four Canadian universities and by other agencies. The University of Toronto, the University of New Brunswick at Fredericton, and the University of British Columbia at Vancouver, provide four-year courses leading to a professional degree. The School of Forestry and Surveying in connection with Laval University at Quebec provides, in the French language, a combined course of four years' duration leading to diplomas in both sciences. The Government of Quebec has established a school in paper-making at Three Rivers in the heart of the paper industry; several agricultural colleges provide short courses in farm forestry and a school for forest rangers has been established at Berthierville by the Quebec Forest Service.

The practice of forestry by individuals and private concerns is encouraged by the furnishing of expert advice by Dominion and provincial services and by the distribution of tree-planting material. The Dominion Department of Agriculture maintains two nurseries in Saskatchewan, one at Indian Head and the other at Sutherland near Saskatoon. Over 7,000,000 trees are distributed annually to farmers and ranchers in the Prairie Provinces for planting woodlots and wind-breaks. If certain conditions are fulfilled, the material and instructions are provided free except for transportation charges. A total of 116,000,000 trees has been distributed.

The province of Ontario provides material under similar conditions and distributes to woodlot owners at least 7,000,000 trees annually from its five nurseries. As many more are being provided for the creation of county forests, demonstration forests and plantations on denuded Crown lands. To encourage the establishment of communal forests by towns and other municipalities, the Provincial Government undertakes to plant free of charge any area purchased by the municipality for this purpose. The Government also assists counties which purchase areas of not less than 1,000 acres of land for forest purposes. As a result of these inducements there are at present scattered throughout the province 50 communal forests owned by municipalities and eight of the larger county forests. Farm land used for forestry purposes, while so used, is exempt from taxation up to 10 p.c. of the total farm area but not exceeding a total of 20 acres.

In Quebec, a forest nursery at Berthierville serves as a demonstration station for the School of Forestry and as a location for the forest ranger school. It provides trees for sale and distribution in the province, comprising seedlings and transplants for forest planting and larger trees for ornamental purposes. The capacity of the nursery has been raised to 10,000,000 trees. Provision is made by legislation for the creation of communal forests, and there are now 76 of these containing 594,059 acres.

Section 6.—Forest Utilization.¹

Historical.—The forest has always played a large part in the life of the pioneer in Eastern Canada, providing him with building material and fuel but opposing his agricultural efforts. The material removed in clearing the first fields was usually more than sufficient for his needs, and in many cases what would now be valuable timber was piled and burned by the early settler. Local trade in lumber began in New France shortly after 1650. The first attempts at forest conservation took the form of setting aside areas of timber for the use of the navy, and the first exports were of shipbuilding material and spars. Sawmills were established along the St. Lawrence before the close of the seventeenth century. While there was no recorded transatlantic trade in forest products other than naval supplies; shipments of lumber and staves were made to the French West Indies during the French *régime*. Shipbuilding became an important local industry and gave rise to considerable forest exploitation.

Transatlantic trade began to develop after the Conquest, stimulated by bounties and tariff privileges granted with the object of reducing England's dependence on Baltic supplies, especially in connection with naval material. This trade, however, did not develop satisfactorily until the beginning of the nineteenth century, when Napoleon succeeded in interfering seriously with imports of wood into England from the Baltic. The export of timber from Canada increased enormously, and the square timber trade in white pine and oak spread from the St. Lawrence and Richelieu valleys to lake Champlain and Upper Canada, especially the Ottawa valley. This trade reached its height in the '60's and has steadily declined since that date.

Sawmilling on a large scale followed the square timber trade and the establishment of small custom mills followed in the wake of the settler. The building of wooden ships in the St. Lawrence valley and the Maritime Provinces developed hand in hand with the lumber industry, providing a local demand for timber and a means of exporting it overseas. The British preferences were reduced and finally abolished about 1860.

The export trade in sawn lumber to the United States developed from 1820 to 1830 and gradually replaced the more wasteful overseas square timber trade, but it was not until after Confederation that the export of sawn lumber by sea exceeded that of square timber.

Encouraged by the free entry of raw materials into the United States, an important trade developed, especially in Ontario, in the exportation of saw logs to be sawn into lumber in American mills. The Provincial Government prohibited the exportation of this material, when cut on Crown lands, about 1900 and effectively checked this economic loss. Similar legislation has since been passed by the Dominion and the other Provincial Governments and has been extended to pulpwood and other raw or unmanufactured forest products.

The lumber industry which began in Quebec and New Brunswick and extended into Upper Canada has since moved gradually through "Old" Ontario, along the Upper Ottawa and its tributaries, around Georgian bay into "New" or northern Ontario and through the Lake of the Woods and Rainy River districts. It is still an important industry in these regions. Lumbering to the north of the prairies, where the timber was never particularly large nor abundant, has progressed with the settlement of the district but the production does not usually exceed the local demand. In 1908 British Columbia provided less than a fifth of Canada's lumber

¹ An article on "The History of the Canadian Lumber Trade", by A. R. M. Lower, M.A., appears at pp. 318-323 of the 1925 edition of the Canada Year Book.

production but in 1929 this proportion had increased to 52 p.c., showing the rapid westward movement of the centre of production. British Columbia has added several new tree species to the lumber market and at present possesses the heaviest stands and the largest individual trees in Canada.

Remarkable developments in the manufacture of pulp and paper in the twentieth century have caused a second wave of forest exploitation to sweep over Eastern Canada, and have given rise to an industry which has already surpassed the manufacture of lumber and is to-day the most important manufacturing industry in Canada and the source of the greatest single item in our exports next to wheat.

Subsection 1.—Woods Operations.

Differences throughout Canada in forest conditions give rise to differences in logging methods. Generally speaking, throughout Eastern Canada the climate is such that the cutting and hauling of logs can be carried on most economically during the fall and winter months. The trees are felled and the logs hauled to the nearest stream or lake, where they are piled on the ice or sloping banks. The presence of connected systems of lakes and streams makes it possible in most cases to float the logs from the forest to the mill at a minimum cost during the annual spring freshets. The logging industry east of the Rocky mountains is therefore almost entirely seasonal. In many cases lumbermen co-operate in river-driving operations and improvement companies, financed by the logging operators, build river improvements to facilitate the passage of the floating logs, the logs being finally sorted and delivered to their respective owners. In British Columbia the scarcity of drivable streams and the greater average size of the logs give rise to entirely different logging methods. Logs are assembled by different cable systems operated by donkey engines and are transported to the mills or to water chiefly by logging railways and in some cases by motor trucks. These operations are more or less independent of frost, snow or freshet and are carried on in most cases throughout the entire year.

In Eastern Canada logging operations are usually carried on by the mill owners or licensees of timbered lands, often through the medium of contractors, sub-contractors and jobbers. In the better settled parts of the country a considerable quantity of lumber is sawn by custom sawmills or small mills purchasing logs from the farmers. Unmanufactured pulpwood, poles, ties and other forest products have a market value, but saw-logs, being as a rule the property of the mill-owner, are not generally marketed as such in Eastern Canada. In British Columbia logging is carried on more frequently as a separate enterprise by limit-holders, who cut and sell logs on the market. In many cases mill operators are not limit-holders but buy their entire supply of raw material from logging concerns.

In connection with operations in the woods it should be borne in mind that the forests not only provide the raw material for the sawmills, pulp-mills, wood distillation, charcoal, excelsior and other plants but that they also provide logs, pulpwood and bolts for export in the unmanufactured state and fuel, poles, railway ties, posts and fence rails, mining timber, piling and other primary products, which are finished in the woods ready for use or exportation. There are also a number of minor forest products, such as maple sugar and syrup, balsam gum, resin, cascara, moss and tanbark, which all go to swell the total.

Table 2 gives the total value of the products of woods operations in Canada for the years 1925 to 1929 inclusive. The imports and exports of forest products in the fiscal years ended Mar. 31, 1928-31, are shown in Tables 12 and 13 of the chapter on External Trade.

2.—Value of Products of Woods Operations, by Products, 1925-29.²

Product.	1925.	1926.	1927.	1928.	1929.
	\$	\$	\$	\$	\$
Logs and bolts.....	76,633,034	75,791,932	74,270,067	76,431,481	79,278,544
Pulpwood.....	62,181,537	68,100,303	70,284,895	74,848,077	76,120,068
Firewood.....	39,515,657	40,032,804	40,582,774	41,164,270	41,764,507
Hewn railway ties ¹	14,491,557	6,792,087	6,242,865	5,871,724	5,730,423
Square timber.....	2,643,543	2,643,543	2,865,906	3,772,137	4,179,077
Poles.....	3,802,036	3,828,193	3,948,723	4,934,371	6,677,559
Round mining timber.....	1,249,021	1,566,938	965,185	998,146	1,028,100
Fence posts.....	1,418,961	1,318,291	1,281,633	1,506,050	1,674,489
Wood for distillation.....	463,616	462,818	482,277	476,726	455,957
Fence rails.....	454,910	440,097	431,057	463,469	477,539
Miscellaneous products.....	6,422,689	3,459,322	3,584,368	2,484,348	2,183,800
Totals.....	209,276,561	204,436,328	204,939,750	212,950,799	219,570,129

¹ The figures for 1925 include sawn ties, which are included under "logs and bolts sawn" in the 1926 to 1929 estimates. ² The value of woods operations for 1930, which has just been made available at the time of going to press, is \$206,900,000.

It has been estimated that operations in the woods in Canada in 1929 involved the investment of \$167,000,000 in logging equipment, gave employment for a part of the year to 97,000 men and distributed over \$80,000,000 in wages and salaries. In estimating the annual drain on our forest resources, certain converting factors have been used. Each of these factors represents in cubic feet the quantity of standing timber that must be cut in the forest to produce one unit of the material in question, based on the total cubic contents of the tree. By the use of these factors it has been estimated that the total drain on our forest resources in 1929 due to consumption for use amounted to 3,090,614,647 cubic feet. To this must be added the volume of material destroyed by fire, insects and fungi, which would bring the total depletion to an average of more than 4,000,000,000 cubic feet per annum. Table 3 gives the reported or estimated production of forest products, by kinds, together with the respective converting factors, the equivalent in standing timber and the estimated value in each case for 1929. Table 4 shows the extent of the drain on our forest resources in 1928 and 1929, by provinces.

3.—Products of Woods Operations in Canada, by Chief Products, 1929.

Product.	Quantity Reported or Estimated.	Converting Factor.	Equivalent Volume in Standing Timber.	Total Value.
			cubic feet.	\$
Logs and bolts..... M ft. b.m.	5,317,361	219	1,164,502,059	79,278,544
Pulpwood..... cords	6,536,335	117	764,751,195	76,120,068
Firewood..... "	9,680,393	95	919,637,335	41,764,507
Hewn ties..... number	8,197,118	12	98,365,416	5,730,423
Square timber..... M ft. b.m.	198,344	219	43,437,336	4,179,077
Poles..... number	1,258,705	13	16,363,165	6,677,559
Round mining timber..... cubic ft.	5,740,737	1-3	7,462,958	1,028,126
Posts..... number	16,876,134	2	33,752,268	1,674,489
Wood for distillation..... cords	51,346	123	6,315,558	455,957
Fence rails..... number	5,586,258	2	11,172,516	477,539
Miscellaneous products..... cords	212,433	117	24,854,661	2,183,816
Totals.....	59,655,164	-	3,090,614,647	219,570,129

4.—Volume of Timber Cut in Canada and Value of Products of Woods Operations, by Provinces, 1928 and 1929.

Provinces.	Equivalent Values in Standing Timber.		Total Values.	
	1928.	1929.	1928.	1929.
	cubic feet.	cubic feet.	\$	\$
Prince Edward Island.....	16,158,953	10,747,881	729,746	529,666
Nova Scotia.....	117,933,752	120,246,169	8,169,748	7,716,067
New Brunswick.....	185,231,100	195,588,102	15,413,390	15,788,394
Quebec.....	876,900,762	810,931,266	67,991,437	65,537,957
Ontario.....	771,331,245	776,378,800	58,774,971	60,999,431
Manitoba.....	71,992,205	92,235,022	3,899,711	4,964,348
Saskatchewan.....	62,811,186	102,912,066	2,877,720	4,878,995
Alberta.....	90,639,513	142,474,289	4,494,145	6,244,173
British Columbia.....	794,989,714	839,106,052	50,599,931	52,911,098
Totals.....	2,988,038,430	3,090,614,647	212,950,799	219,570,129

The following statement summarizes the quantities and values, in the calendar year 1929, of the main products of the woods which are sold without further manufacture and of the two principal industries utilizing the forest resources, and shows the value of the forests as a source of wealth in Canada. It is estimated that in the further manufacture of wood and paper into such products as sash, doors, furniture, caskets and paper goods, at least \$75,000,000 is added to the value of these products.

QUANTITIES AND VALUES OF CHIEF FOREST PRODUCTS IN CANADA, 1929.

Item.	Quantity.	Value of Product.	Number of Persons Employed.
Lumber Industry—			
Lumber..... M ft. b.m.	4,741,941	113,349,886	-
Lath..... M pcs.	835,799	2,860,799	-
Shingles..... "	2,707,235	9,423,363	-
Totals.....	-	125,634,048	46,466
Pulp and Paper Industry—			
Paper manufactured..... tons	3,197,149	192,989,252	-
Pulp exported..... "	830,848	43,367,984	-
Totals.....	-	236,357,236	33,584
Woods Operations—			
Logs and timber exported..... M ft. b.m.	504,616	8,524,079	-
Pulpwood exported..... cords	1,294,995	13,314,738	-
Poles..... pcs.	1,258,705	6,677,559	-
Mining timber..... cu. ft.	5,740,737	1,028,126	-
Posts..... pcs.	16,876,134	1,674,489	-
Fence rails..... "	5,586,258	477,569	-
Railway ties..... "	8,197,118	360,168	-
Fuelwood..... cords	9,680,393	41,764,507	-
Distilled wood..... "	51,846	455,957	-
Miscellaneous..... "	212,433	2,183,816	-
Totals.....	-	76,461,008	97,000
Grand Totals.....	-	438,452,292	177,050

Subsection 2.—The Pulp and Paper Industry.

The manufacture of pulp and paper is a comparatively recent development in Canadian industry. Paper was first manufactured in Canada about a hundred years ago but prior to 1860 no wood-pulp was used or produced. Rags, straw, esparto grass, cotton waste and other substances were the raw materials used. The first paper-mill was established at St. Andrews in Quebec (then Lower Canada) in 1803 by a party of Americans who obtained concessions from the seigneurs. Upper Canada's first mill, which is still in operation, was built in 1813 at Crook's Hollow (now Greensville) near Hamilton, and the Maritime Provinces entered the industry in 1819 with a mill at Bedford Basin near Halifax.

In 1866, Alexander Buntin installed at Valleyfield, Quebec, what is claimed as the first wood grinder in America and began the manufacture of wood-pulp by the mechanical process. During the same year Angus Logan and Co. built the first chemical wood-pulp mill in Canada at Windsor Mills in Quebec. During the next decade the use of wood-pulp in paper-making was extensively developed and in 1887 Charles Riordon installed the first sulphite mill in Canada at Merritton in the Niagara Peninsula; by the beginning of the century the output of the industry had exceeded \$8,000,000. In 1907 the Brompton Pulp and Paper Co. built, at East Angus in Quebec, the first mill in America to manufacture chemical pulp by the sulphate or kraft process.

The gross output of the industry increased rapidly and steadily until the boom years following the Great War, when it jumped to a peak of over \$232,000,000 in 1920. This was followed by a drop in 1921, following which there was a steady recovery, resulting in a total for 1929 of \$243,970,761 exceeding the abnormally high total value reported in 1920. There was a decrease of 11.6 per cent in 1930.

There are to-day three classes of mills in the industry. These in 1930 numbered 32 mills making pulp only, 49 combined pulp and paper-mills, and 28 mills making paper only. The present tendency is toward the merging of individual companies into a comparatively small number of large groups.

The rapid development of this industry was due chiefly to the existence in Canada of abundant water powers adjacent to extensive forest resources of pulpwood species. Summary statistics for the combined pulp and paper industry are given on p. 210.

The industry in Canada includes three forms of industrial activity, the operations in the woods with pulpwood as a product, the manufacture of pulp and the manufacture of paper. These three stages cannot be treated as entirely distinct nor can they be separated from the different stages of the lumber industry. Some of the important pulp companies operate sawmills to utilize the larger timber on their limits to the best advantage, and many lumber manufacturers divert a proportion of their spruce and balsam logs to pulp-mills. So far as operations in the woods are concerned, it is often impossible to state whether the timber being cut will eventually be made into lumber or into pulpwood.

On account of legislation already referred to, pulpwood cut on Crown lands must in every province be manufactured into pulp in Canadian pulp-mills. The pulpwood which is exported to the United States is cut from private lands. Table 5 shows the annual production of this commodity from 1920 to 1930, together with the quantities used by Canadian pulp-mills and the quantities exported. For figures for the years 1908 to 1919 inclusive, see the Year Book of 1931, p. 288.

5.—Production, Consumption, Export and Import of Pulpwood, calendar years 1920-30.

Year.	Apparent Total Production of Pulpwood in Canada.			Canadian Pulpwood Used in Canadian Pulp-mills.		Canadian Pulpwood Exported Unmanufactured. ¹		Imported Pulpwood Used in Canada.	
	Quantity.	Total Value.	Average Value per cord.	Quantity.	Per cent of Total Production.	Quantity.	Per cent of Total Production.	Quantity.	Per cent of Total Production.
	cords.	\$	\$	cords.	p.c.	cords.	p.c.	cords.	p.c.
1920.....	4,024,826	61,183,060	15.22	2,777,422	69.0	1,247,404	31.0	None Reported.	
1921.....	3,273,131	52,900,872	16.16	2,180,578	66.6	1,092,553	33.4		
1922.....	3,923,940	57,735,361	12.93	2,912,608	74.2	1,011,332	25.8		
1923.....	4,654,663	57,119,596	12.27	3,270,433	70.3	1,384,230	29.7		
1924.....	4,647,201	57,777,640	12.43	3,316,951	71.4	1,330,250	28.6		
1925.....	5,092,461	62,181,537	12.23	3,668,959	72.0	1,423,502	28.0		
1926.....	5,621,305	68,100,303	12.14	4,229,567	75.2	1,391,738	24.8		
1927.....	5,929,456	70,284,895	11.85	4,387,687	74.0	1,541,769	26.0		
1928.....	6,295,912	74,587,833	11.85	4,763,646	75.7	1,532,266	24.3	32,674	0.7
1929.....	6,536,335	76,120,063	11.65	5,241,340	80.2	1,294,995	19.8	37,082	0.7
1930.....	5,977,183	67,529,612	11.30	4,646,717	77.7	1,330,466	22.3	94,632	1.6

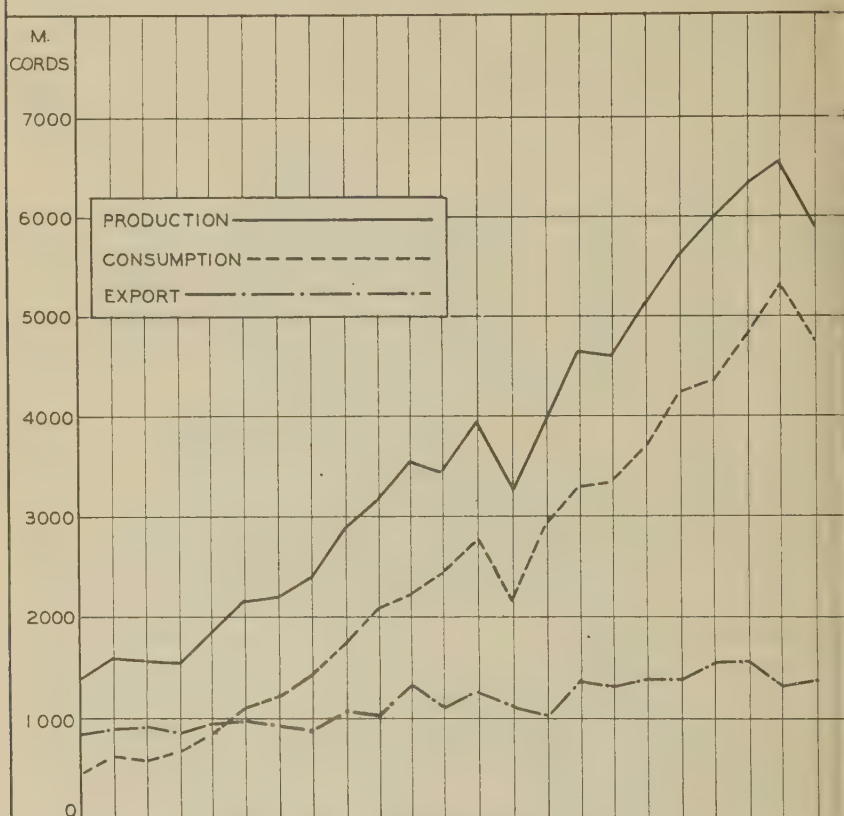
¹ Exports of pulpwood in the calendar year 1931 were 957,303 cords.

The exportation^a of raw pulpwood, shown for 1920-30 above, has increased only 36 p.c. since 1912, while the quantity consumed in Canadian pulp-mills has increased more than five-fold during the same period. In 1908 almost two-thirds of the pulpwood cut in Canada was exported in the raw or unmanufactured form and in 1920 the proportion was still over three-tenths. In 1930, with an increase of over 351 p.c. in total production compared with 1908, the proportion exported has fallen to slightly over one-fifth.

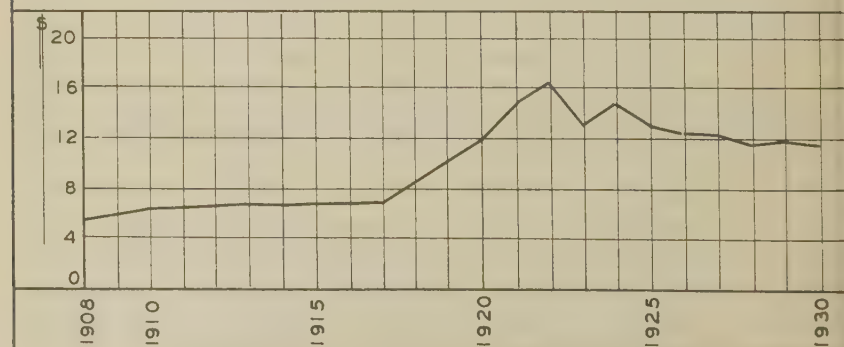
The manufacture of pulp forms the second stage in this industry. This is carried on by mills producing pulp alone and also by paper manufacturers operating pulp-mills in conjunction with paper-mills for the purpose of providing their own raw material. Such mills usually manufacture a surplus of pulp and offer it for sale in Canada or for export.

The supply of rags for paper-making is distinctly limited and the material too expensive for the manufacture of cheap paper. Early paper-makers experimented with fibres from the stems, leaves and other parts of numerous annual plants, but the small proportion of paper-making material recoverable from such sources led to experiments in the use of wood. Different species were tried, and finally spruce and balsam fir were found to be the most suitable for the production of all but the best classes of paper.

The preliminary preparation of pulpwood is frequently carried on at the pulp-mill, but there are in Canada a number of "cutting-up" and "rossing" mills operating on an independent basis, chiefly for the purpose of saving freight on material cut at a distance from the mill or on material intended for exportation. Pulp wood is measured by the cord (4' by 4' by 8' of piled material), which is approximately equivalent to 500 feet board measure or to 90 cubic feet of solid wood.

PULPWOOD PRODUCTION MANUFACTURE
AND EXPORT

AVERAGE VALUE PER CORD



There are in Canada four methods of preparing wood-pulp, one of which is mechanical and three chemical. Detailed descriptions of these processes were given in the 1931 Year Book, pp. 290-1.

Pulp Production.—Table 6 shows the total production of pulp in Canada from 1920 to 1930 inclusive, together with the production of groundwood pulp and the production of fibre by the three chemical processes described. Comparable statistics for the years 1908 to 1919 inclusive were published at p. 293 of the 1931 Year Book.

5.—Pulp Production, Mechanical and Chemical, calendar years 1920-30.

Year.	Total Production. ¹		Mechanical Pulp.		Chemical Fibre.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	\$	tons.	\$	tons.	\$
1920.....	1,960,102	141,552,862	1,090,114	49,890,337	848,528	90,053,999
1921.....	1,549,082	78,338,278	931,560	32,313,848	612,467	45,929,513
1922.....	2,150,251	84,947,598	1,241,185	31,079,429	897,533	53,615,692
1923.....	2,475,904	99,073,203	1,419,547	37,587,379	1,012,092	60,674,518
1924.....	2,465,011	90,323,972	1,427,782	36,165,901	986,242	53,313,823
1925.....	2,772,507	100,216,383	1,621,917	39,130,117	1,084,992	59,969,673
1926.....	3,229,791	115,154,199	1,901,268	44,800,257	1,125,178	69,220,427
1927.....	3,278,978	114,442,550	1,922,124	44,174,811	1,278,572	69,169,002
1928.....	3,608,045	121,184,214	2,127,699	47,549,324	1,392,755	72,500,188
1929.....	4,021,229	129,033,154	2,420,774	51,617,360	1,501,273	76,198,051
1930.....	3,619,345	112,355,872	2,283,130	48,317,494	1,265,057	63,156,351

¹ These totals include some unspecified pulp and screenings.

The growth of this industry was uniform up to 1920, when 1,960,102 tons of pulp were produced. There was a drop in production in 1921, but production in 1922 more than overtook the previous year's drop. Since then, with the exception of 1924, each year up to 1929 showed consistent growth in the annual production, 1929 creating a record for the industry with a production of 4,021,229 tons. The 1930 figure of 3,619,345 tons marks a decrease of 10 p.c. from 1929.

During 1930 there were 32 mills manufacturing pulp only and 49 combined pulp and paper-mills. These 81 establishments turned out 3,619,345 tons of pulp, valued at \$112,355,872, as compared with 4,021,229 tons of pulp, valued at \$129,033,154, in 1929. Of the 1930 total for pulp 2,741,310 tons, valued at \$70,308,009, were made in the combined pulp and paper-mills for their own use in manufacturing paper. Of the remainder, 108,028 tons, valued at \$4,991,471, were made for sale in Canada, while 770,007 tons, valued at \$37,056,392, were made for export. As in the case of pulpwood, a part of the product at this stage of the industry provides raw material for the later stages, while the remainder has a definite market value as such.

Over 63 p.c. of the production in 1930 was groundwood pulp and about 22 p.c. unbleached sulphite fibre, these two being the principal components of newsprint paper. Bleached sulphite, sulphate and soda fibre made up the remainder, with screenings, for which a considerable market has developed in recent years in connection with the manufacture of fibre boards. Table 7 shows the production of pulp by provinces in the last five years.

7.—Production of Wood-Pulp in Canada, by the Chief Producing Provinces, 1926-36.

Year.	Quebec.		Ontario.		Canada. ¹	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	\$	tons.	\$	tons.	\$
1926.....	1,672,339	59,218,576	1,095,987	38,008,752	3,229,791	115,154,199
1927.....	1,749,965	60,884,169	1,007,118	35,034,468	3,278,973	114,442,560
1928.....	2,018,566	67,467,328	1,050,335	35,708,079	3,608,045	121,184,214
1929.....	2,174,805	69,286,498	1,255,010	39,963,767	4,021,229	129,033,154
1930.....	1,833,000	58,703,067	1,043,559	31,463,873	3,619,945	112,355,872

¹ Includes production in British Columbia, Manitoba, New Brunswick and Nova Scotia.

Pulp Exportation.—The following table gives the quantities of pulp exported by the principal pulp-producing countries of the world in 1930. Figures for 1913, the year immediately preceding the war, and for 1929 are shown for comparison. Figures of the exports of wood-pulp from Canada in the fiscal years ended Mar. 31, 1928-31, will be found in Table 12 of the chapter on External Trade. In the calendar year 1931 the exports of wood-pulp from Canada were 622,537 tons.

8.—Exports of Wood-Pulp from Principal Wood-Pulp Producing Countries of the World, calendar years 1913, 1929 and 1930.

Country.	Years ended Dec. 31—				
	1913.	1929.	1930.	Proportion, 1930.	
	Total Wood-Pulp.	Total Wood-Pulp.	Total Wood-Pulp.	Chemical.	Mechanical.
	tons.	tons.	tons.	tons.	tons.
Sweden.....	1,112,313	2,304,579	2,064,907	1,542,220	522,687
Norway.....	779,025	970,165	939,723	266,595	673,128
Finland.....	132,674	858,698	869,864	578,173	291,691
Canada.....	298,169	830,848	760,221	543,575	216,646
Germany.....	206,042	296,101	322,414	316,835	5,579
Austria.....	112,724	124,003	128,786	111,691	17,095
Czechoslovakia.....	23,935	100,874	112,176	112,083	93
United States.....	19,776	54,068	48,426	37,115	11,311
Poland.....	—	9,426	13,245	13,245	—
Switzerland.....	7,328	11,481	8,769	6,711	2,058
Newfoundland.....	57,665	73	—	—	—
Totals, Eleven Principal Countries	2,749,651	5,560,316	5,268,531	3,528,243	1,740,288

The total exports of the eleven principal pulp-exporting countries of the world in 1930 were 5,268,531 short tons, of which Canada contributed about 14 p.c.

Paper Production.—The paper-making stage of the industry involves the consumption of wood-pulp and other paper stock in the manufacture of paper and other pulp products. Accurate annual statistics for this part of the industry are only available for the years 1917 to 1930 inclusive. These are given in Table 9.

During 1930 there were 49 combined pulp and paper-mills and 28 mills making paper only. These 74 establishments produced 2,926,787 tons of paper, together with certain miscellaneous pulp products, with a total value of \$173,626,383, as compared to 3,197,149 tons, valued at \$193,193,022 in 1929. Newsprint paper forms about 85 p.c. of the annual paper production in Canada. In 1930, the production of newsprint paper was 2,497,952 tons, valued at \$136,181,883, making Canada the largest producer of newsprint in the world. The estimate for 1931 is 2,220,775 tons (preliminary figures).

9.—Summary of Paper Production in Canada, calendar years 1917-30.

Year.	Newsprint Paper.		Book and Writing Paper.		Wrapping Paper.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	\$	tons.	\$	tons.	\$
1917.....	689,847	38,868,084	48,141	9,310,138	50,360	646,750
1918.....	734,783	46,230,814	48,150	10,732,807	61,180	7,341,372
1919.....	794,567	54,427,879	58,228	12,571,000	59,697	7,979,418
1920.....	875,696	80,865,271	73,196	21,868,807	77,292	12,161,303
1921.....	805,114	78,784,598	53,530	12,550,520	52,898	6,634,211
1922.....	1,081,364	75,971,327	64,808	12,500,504	81,793	8,219,841
1923.....	1,251,541	93,213,340	76,789	13,582,135	84,912	7,666,174
1924.....	1,388,081	100,276,903	67,934	12,695,623	89,441	8,027,918
1925.....	1,536,523	106,268,641	74,724	13,145,407	91,417	8,130,102
1926.....	1,889,208	121,064,946	80,403	14,765,725	97,057	8,552,400
1927.....	2,082,830	132,286,729	75,072	12,916,469	102,707	9,607,828
1928.....	2,414,393	144,146,632	79,138	14,008,406	111,667	10,424,217
1929.....	2,725,331	150,800,157	73,502	13,636,562	91,374	9,725,876
1930.....	2,497,952	136,181,883	69,468	12,261,659	78,320	7,880,224

Year.	Boards.		Other Paper Products.		Totals, Paper.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	\$	tons.	\$	tons.	\$
1917.....	54,080	3,543,164	11,261	1,382,205	853,689	58,750,341
1918.....	87,749	5,551,409	35,862	3,267,142	967,724	73,123,544
1919.....	137,678	8,892,046	40,065	3,882,500	1,090,235	87,752,843
1920.....	158,041	12,904,662	30,726	4,222,724	1,214,951	132,022,767
1921.....	89,120	6,225,948	18,285	2,358,658	1,018,947	106,553,935
1922.....	113,200	7,000,081	25,650	2,508,325	1,366,815	106,260,078
1923.....	130,582	8,480,233	45,479	5,042,488	1,589,303	127,984,370
1924.....	135,252	8,228,760	38,033	4,256,469	1,718,741	133,395,673
1925.....	144,646	8,378,621	37,395	4,757,406	1,884,705	140,680,177
1926.....	155,469	8,825,804	44,006	5,068,203	2,266,143	158,277,078
1927.....	161,497	8,985,788	46,585	4,433,926	2,468,691	168,445,548
1928.....	193,061	10,656,200	50,940	5,069,950	2,849,199	184,462,356
1929.....	250,061	13,539,645	56,881	5,287,012	3,197,149	193,193,022
1930.....	233,217	12,193,829	47,830	4,788,279	2,926,787	173,626,383

Newsprint made up about 85 p.c. of the total paper production in 1930, with 8 p.c. of paper boards, 3 p.c. of wrapping paper, over 2 p.c. of book and writing paper and nearly 2 p.c. of other miscellaneous papers.

10.—Production of Paper in Canada, by Provinces, 1930.

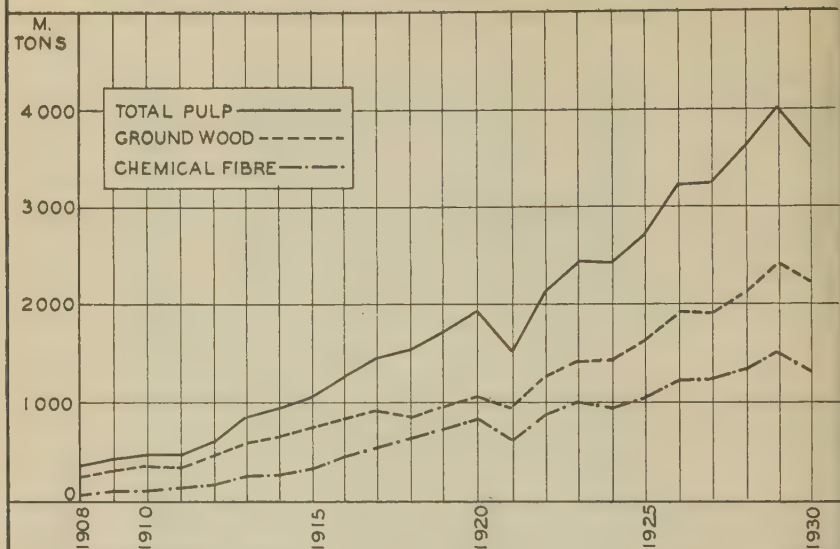
Province.	Quantity.	Value.
	tons.	\$
Quebec.....	1,536,240	90,668,181
Ontario.....	911,695	56,251,703
British Columbia.....	252,730	14,134,251
Nova Scotia, New Brunswick and Manitoba.....	226,122	12,572,248
Totals.....	2,926,787	173,626,383

Quebec produced 52 p.c. of the total quantity, Ontario 33 p.c., British Columbia 8 p.c. and Nova Scotia, New Brunswick and Manitoba the remainder.

World Production of Newsprint.—The world production of newsprint in 1930 has been estimated at 7,021,000 short tons, of which North America supplied over 58 p.c. and Canada alone over 35 p.c. The estimated production in the leading 24 countries, compared with 1929, was as follows:—

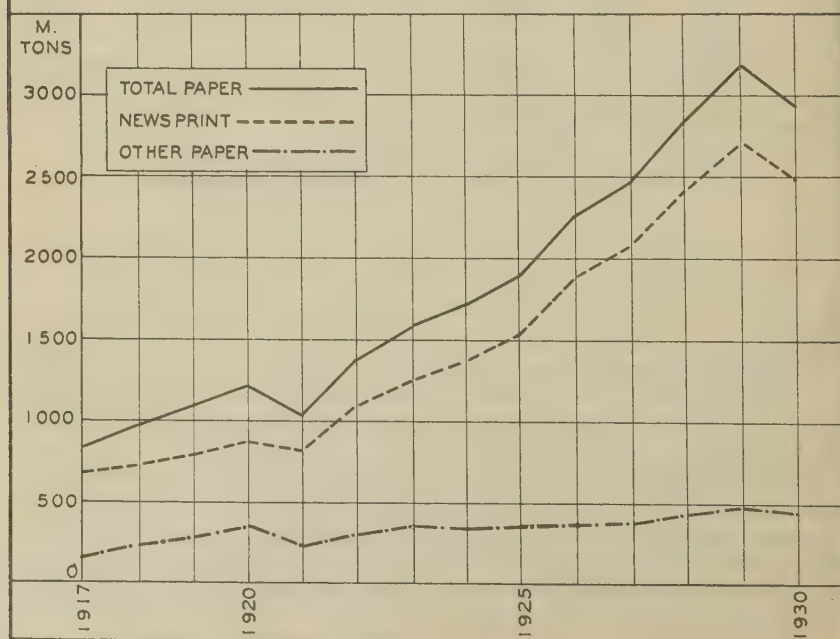
GROWTH OF WOOD PULP PRODUCTION

1908-1930



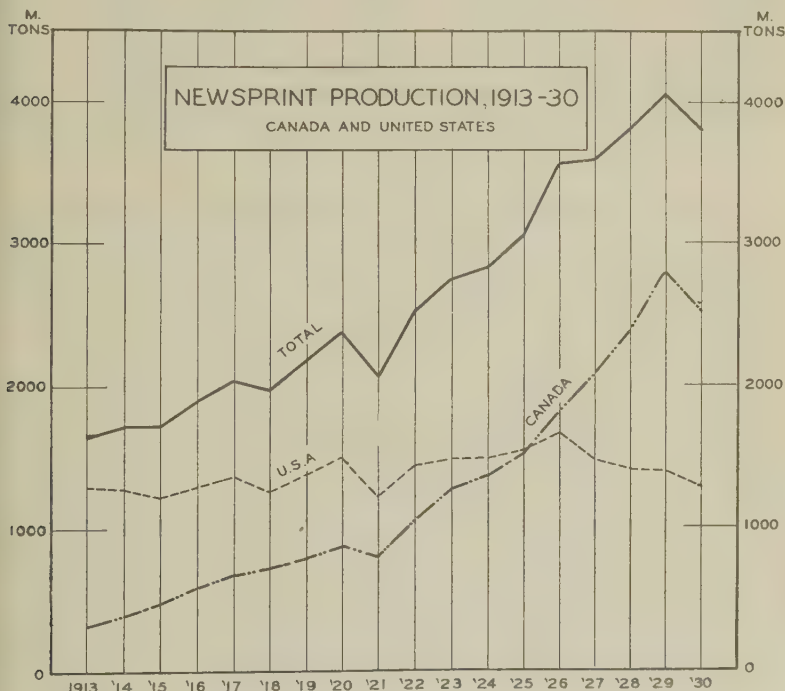
VARIATIONS IN PAPER PRODUCTION

1917-1930



11.—Estimated Production of Newsprint in 24 Leading Countries, 1929 and 1930.

Country.	Production.		Country.	Production.	
	1929.	1930.		1929.	1930.
	tons.	tons.		tons.	tons.
Canada.....	2,725,000	2,500,000	Austria.....	62,000	64,000
United States.....	1,392,000	1,282,000	Belgium.....	57,000	50,000
Great Britain.....	636,000	608,000	Switzerland.....	45,000	47,000
Germany.....	623,000	590,000	Czechoslovakia.....	47,000	44,000
Newfoundland.....	256,000	287,000	Spain.....	30,000	32,000
Japan.....	286,000	285,000	Estonia.....	27,000	29,000
Sweden.....	275,000	240,000	Poland.....	23,000	27,000
France.....	210,000	240,000	Mexico.....	19,000	14,000
Finland.....	215,000	223,000	Denmark.....	11,000	10,000
Norway.....	189,000	202,000	Latvia.....	4,000	4,000
Russia.....	30,000	90,000	All others.....	10,000	-
Netherlands.....	77,000	84,000			
Italy.....	52,000	69,000			
			Totals.....	7,305,000	7,021,000



Exportation of Newsprint Paper.—In the fiscal year 1908, exports of printing

paper were for the first time separately recorded, and valued at \$2,833,535. In the fiscal year 1913, when quantities were first shown, Canada exported 256,661 short tons valued at \$9,980,378. In 1930 our exports of newsprint amounted to 2,332,510 tons valued at \$133,370,932, and ranked second only to wheat among the exports of the Dominion. For exports of newsprint and other paper in the fiscal years ended Mar. 31, 1928-31, see Table 12 of the chapter on External Trade.

As early as 1913 Canada led the world in the exportation of newsprint, and since that date her exports have increased almost ten-fold in quantity. The following table shows the exportation of newsprint from the 13 principal exporting

countries in 1913, 1928, 1929 and 1930. Canada contributed over 63 p.c. or more than all the other 12 countries combined in 1930. Canada's exports of newsprint paper are estimated for the calendar year 1931 at the figure of 2,008,241 tons.

12.—Exports of Newsprint Paper from Principal Paper-Producing Countries of the World, 1913, 1928, 1929 and 1930.

NOTE.—Countries arranged in order of importance of exports, 1929.

Rank in 1929.	Country.	Year ended Dec. 31—			
		1913.	1928.	1929.	1930.
		tons.	tons.	tons.	tons.
1	Canada.....	256,661	2,206,588	2,515,495	2,332,510
2	Germany.....	75,761	205,708	254,336	203,577
3	Newfoundland.....	49,755	207,146	243,923	279,422
4	Sweden.....	67,938	176,186	217,682	192,781
5	Finland.....	77,212	189,063	191,395	206,970
6	Norway.....	108,507	183,790	189,210	188,244
7	United Kingdom.....	105,152	94,352	107,673	88,877
8	Japan.....	3,270	55,184	57,658	72,593
9	Austria.....	14,855	58,264	54,000	58,492
10	Netherlands.....	—	33,474	32,019	35,327
11	United States.....	43,301	11,391	18,696	10,204
12	Czechoslovakia.....	—	15,315	13,105	10,025
13	Switzerland.....	12	11,780	10,594	9,633
	Totals, Principal Countries.....	—	3,448,241	3,905,786	3,688,658

Statistics of the Combined Pulp and Paper Industries.—While the manufacture of pulp and that of paper are properly two industries, the existence of combined pulp and paper-mills makes it impossible to separate many of their statistics. Considering the manufacturing part of the industry as a whole, there were altogether 109 mills in operation in 1930 and 108 in 1929. The capital invested in 1930 amounted to \$714,437,104, the employees numbered 33,207 and their salaries and wages amounted to \$45,774,976. If we disregard the pulp made "for own use" in the combined pulp and paper-mills, the total value of the raw materials used in the industry as a whole amounted to \$81,992,255 and the gross value of production to \$215,674,246. The difference between these two, or the net value of production, represents the value added by manufacture and amounted in 1930 to \$133,681,991. Pulp and paper, now the most important manufacturing industry in Canada, has been first in wages and salaries paid since 1922, when it exceeded those of the sawmills. It has been the leading industry in gross value of production since 1925, when it replaced the flour mills, and also first in net value of production since 1920, when it outstripped the sawmills in this respect. Only the manufacturing stages of the industry are considered in these comparisons, no allowance being made for the capital invested, men employed, wages paid nor primary products sold in connection with the woods operations which form such an important part of the industry as a whole but cannot be separated from woods operations carried on in connection with sawmills and other industries. If the \$13,611,617 worth of exported pulpwood be taken into consideration, the gross total contribution of the pulp and paper industry toward a favourable trade balance for Canada in 1930 amounted to \$176,506,583, representing the difference between exports and imports of pulpwood, pulp, paper and paper products.

The United States market absorbs annually all of Canada's pulpwood exports and about 84 p.c. of her pulp and paper shipments, and the remaining portion goes to the United Kingdom and other widely distributed overseas markets. About half of the paper consumed in the United States is either of Canadian manufacture or is made from wood or wood-pulp imported from Canada.

Subsection 3.—The Lumber Industry.¹

The manufacture of lumber, lath, shingles and other products of the sawmill is the second most important industry in Canada depending on the forest for its raw materials. Annual statistics covering this and other forest industries were collected and published by the Forest Service of the Department of the Interior from 1908 to 1916. Since that date the work has been carried on by the Dominion Bureau of Statistics, in co-operation with the Forest Service.

The production of sawn lumber in Canada in 1920 reached a total of over four billion feet board measure, the highest cut recorded since 1912. This was followed in 1921, however, by a period of depression which was general throughout all fields of industrial activity. The production of lumber in 1921 decreased by over a third and the average value by over \$10 a thousand feet. Since that year there have been annual increases in cut for Canada as a whole except in 1927 and 1930. The tendency toward a decrease in production in Eastern Canada has been more or less made up by the increased cut each year in British Columbia, which now produces almost half the total. Table 13 gives the production of lumber, lath and shingles in each year from 1920 to 1930; comparable figures for the years 1908 to 1919 inclusive are given at p. 300 of the 1931 Year Book.

13.—Lumber, Lath and Shingle Production in Canada, for the calendar years 1920-30.

Year.	Lumber Cut.		Shingles Cut.		Lath Cut.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	M ft. b.m.	\$	M	\$	M	\$
1920.....	4,298,804	168,171,987	2,855,706	14,695,159	762,031	5,248,879
1921.....	2,869,307	82,448,585	2,986,580	10,727,096	804,449	4,188,121
1922.....	3,138,598	84,554,172	2,506,956	10,397,083	1,031,420	5,660,328
1923.....	3,728,445	108,290,542	2,718,650	9,617,114	1,153,735	6,324,747
1924.....	3,878,942	104,444,622	3,129,501	10,406,293	1,165,819	5,975,253
1925.....	3,888,920	99,725,519	3,156,261	11,154,773	1,292,963	6,415,927
1926.....	4,185,140	101,071,260	3,299,397	10,521,723	1,378,366	6,527,060
1927.....	4,098,081	97,508,786	2,837,281	8,716,085	1,322,665	5,603,396
1928.....	4,337,253	103,590,035	2,865,994	10,321,341	1,138,417	4,802,616
1929.....	4,741,941	113,349,836	2,707,235	9,423,363	835,799	2,860,799
1930.....	3,989,421	87,710,957	1,914,836	5,388,837	398,254	1,154,593

The total number of sawmills, tie, shingle, lath, veneer, stave, heading and hoop mills, and mills for cutting-up and barking or rossing of pulpwood operating in 1930 was 3,531, as compared with 3,161 in 1929. The capital invested in these mills in 1930 was \$181,116,933, the employees numbered 43,457 and their wages and salaries amounted to \$28,512,901. The logs, bolts and other raw materials of the industry were valued at \$72,956,762 and the gross value of production was \$121,142,985. The net production or the value added by manufacture in 1930 was \$48,186,223.

The lumber industry in 1930 was the fifth most important manufacture in Canada in gross value of products, being exceeded by pulp and paper, slaughtering and meat packing, flour milling, and central electric stations. It ranked first in total number of employees, third in wage and salary distribution, third in value of capital invested, and fourth in net value of products.

¹ An article on "The History of the Canadian Lumber Trade", by A. R. M. Lower, M.A., appears at pp. 318-323 of the 1925 edition of the Canada Year Book.

The production of sawn lumber decreased in quantity from 1929 to 1930 by 15.8 p.c. Lath production decreased by 52.3 p.c., and shingle production by 29.3 p.c. Other decreases were reported in the production of sawn ties, staves, pickets and poles, and increases in pulpwood, shooks, fuel, spoolwood, veneer, heading and miscellaneous products. The total gross value of production decreased from \$146,989,564 in 1929 to \$121,142,985 in 1930; for production by province for the latter year see Table 14.

14.—Production of Lumber and other Sawmill Products in Canada, by Provinces, 1930.

Province.	Lumber Production.		Other Sawmill Products.	Total All Products.
	Quantity.	Value.	Value.	Value.
	M ft. b.m.	\$	\$	\$
Prince Edward Island.....	4,777	113,769	15,809	129,578
Nova Scotia.....	129,425	2,529,460	709,387	3,238,847
New Brunswick.....	275,626	6,409,431	2,154,984	8,564,415
Quebec.....	683,591	17,222,734	17,126,430	34,349,164
Ontario.....	718,419	21,101,797	3,612,371	24,714,168
Manitoba.....	83,253	1,689,947	70,722	1,760,669
Saskatchewan.....	47,355	1,001,583	18,585	1,020,168
Alberta.....	118,377	2,223,794	166,793	2,390,587
British Columbia.....	1,928,598	35,418,442	9,556,947	44,975,389
Totals.....	3,989,421	87,710,957	33,432,028	121,142,985

British Columbia comes first in total production, contributing 48.3 p.c. of the total cut in lumber and 78.7 p.c. of the shingles. Quebec comes second, Ontario third and New Brunswick fourth. Douglas fir was the most important kind of lumber sawn, being produced almost entirely in British Columbia. Spruce is sawn in every province and comes second, with white pine, hemlock and cedar next in order of importance. Cedar is the most important shingle wood sawn. The conifers usually form about 95 p.c. of the total cut of all kinds of wood in this industry, with only 5 p.c. deciduous-leaved trees or hardwoods.

Lumber Exportation.—The square timber trade reached its maximum development in the '60's, declined gradually and has now almost entirely disappeared. With its decline came the increased exportation of deals and other sawn lumber, first to Great Britain and later to the United States. Our trade with this latter country has been from the first largely confined to planks, boards and dimension stock. During the American Civil War our exports of forest products of all kinds to the United States for the first time exceeded those to Great Britain but in late years this has become invariable. The total quantity of sawn lumber exported from Canada has changed little in the last 25 years, averaging about two billion feet board measure per annum. The exports in 1930 amounted to 1,488,517 feet board measure, valued at \$36,743,267, of which the United States took the greater part. The exports of lumber, lath and shingles decreased in 1930 as compared with 1929.

Subsection 4.—Summary of Primary Forest Production.

For the purpose of comparing primary industries such as agriculture, fishing, forestry and mining, forestry production is here understood to consist of the total value of the products of woods operations, together with the value added by manufacture in sawmills and pulp-mills, but not in paper-mills. Forestry production

under this system of classification, amounted to \$357,649,078 in 1929 or about 18 p.c. of the total primary production for the Dominion, which was estimated at \$1,875,-387,562. Forest production, therefore, stood in second place in this respect, being exceeded by agriculture with \$1,034,129,824 or 55 p.c. and followed by mining, with \$310,850,246 or 16 p.c.

Subsection 5.—Other Forest Industries.

Sawmills and pulp-mills draw their supplies of raw material direct from the forest in the form of logs and pulpwood, and produce sawn lumber, other sawmill products and pulp and paper. There are also a number of important industries which use these products as raw material for further manufacture. Some of them produce commodities made almost entirely of wood, wood-pulp or paper, others manufacture articles in which wood is the most important component, and others produce articles in which wood is necessary but forms only a small proportion of the value. There are, in addition, a number of industries which use wood indirectly in the manufacture of articles which do not contain wood as a component part. The first class includes the manufacture of paper, sash, doors and other millwork and planing-mill products; boxes, baskets, cooperage and other containers; canoes, boats and small vessels; kitchen, bakers' and dairy woodenware; wooden pumps, piping, tanks and silos; spools, handles, dowels and turnery. The second class includes the manufacture of furniture, vehicles and vehicle supplies, coffins and caskets, etc., and the use of paper in printing and the manufacture of paper boxes, bags, stationery and paper goods. The third class, where wood has a secondary importance, includes the manufacture of agricultural implements, railway rolling stock, musical instruments, brooms and brushes, etc. The fourth class can be said to include practically every form of industrial activity, as few, if any, of these are entirely independent of the use of wood, directly or indirectly.

Subsection 6.—Manufactures of Wood and Paper.

A classification based on the chief component material in the products of each manufacturing establishment is now largely used in comparing manufacturing industries and for external trade purposes. Under this system most of the forest industries fall in the wood and paper group. In 1930 the gross value of production for all classes of manufactured products amounted to \$3,426,636,914, of which total the wood and paper group contributed \$636,599,911 or over 18 p.c. It was exceeded in this respect by the vegetable products with over 19 p.c. Of the ten groups of the industrial census the wood and paper group, which includes the manufacture of lumber, pulp and paper as well as the wood- and paper-using industries, was highest in number of establishments with 7,816, in capital invested with \$1,221,357,252, in total number of employees with 156,724 and in salary and wage distribution with \$174,406,889.

In few industries did manufacture add, in 1930, a higher percentage to the raw material used than in the wood- and paper-using industries; in the manufacture of pulp and paper this percentage is 163 and in the lumber industry, 66. By the manufacture of lumber into planing-mill products its value is increased by 89 p.c. For the wood and paper group as a whole the net value of production, or the value added by manufacture, in 1930 was \$368,350,618, or 137 p.c. of the value of raw materials used. In respect also of the net value of production the wood and paper group of industries surpasses all the other groups of manufactures. Further details are given in the Manufactures chapter of the present volume.

The forests of Canada contribute an important part to her total export trade. During the fiscal year ended Mar. 31, 1931, exports of forest origin amounted to \$230,514,474 and made up 28.8 p.c. of the total value of exports for the period amounting to \$799,652,667. Exports of forest origin were exceeded only by those of farm origin, which made up 47 p.c. of the total and were followed by products of mineral origin with 19.5 p.c. Forest products are also prominent among the individual items of exportation. Newsprint paper is second only to wheat on the list and sawn lumber and wood-pulp come fourth and fifth. The gross contribution of the forest toward a favourable trade balance for Canada amounted to \$154,975,067 during the same period.

Subsection 7.—Forest Depletion and Increment.

Fire Losses.—No accurate summing up of forest fire losses in Canada's forests has ever been made, but it has been estimated that 60 p.c. of the original forest has been burned, 15 p.c. has been cut for use and 27 p.c. remains. Though the loss of merchantable timber has been greatly reduced in recent years by forest protective services and the education of the public, it still constitutes a serious drain on our resources. At a low estimate fire destroys annually about 300 million cubic feet of merchantable timber and the young growth on 530,000 acres.

Since the historic Miramichi fire, which burned along the valley of the Miramichi river in New Brunswick in 1825, there have been a number of disastrous forest fires. About 1845 vast areas, west of Lake Superior, were burned over. Some years later a very extensive fire burned along the height of land from Lake Timiskaming to Michipicoten. In 1871 a fierce fire swept over more than 2,000 square miles of forest from Lake Nipissing westward along the north shore of Georgian Bay. About the same time the greater part of the Saguenay and Lake St. John district, in Quebec, was swept by one of the most destructive fires on record. Two other fires in 1891 and 1896 devastated more than 2,000 square miles of country in the southern Algoma district; in Quebec, the country along the line of the Quebec and Lake St. John Railway also suffered by a number of disastrous forest fires about this time.

During more recent times a series of disastrous fires swept over northern Ontario. A number of isolated fires around the mining camp of Porcupine culminated, on July 11, 1911, in a conflagration which resulted in the loss of 72 lives and property damage estimated at \$5,000,000. In 1916, fires in the same general region were responsible for the deaths of at least 224 people. In 1922 a third fire destroyed the town of Haileybury and other centres. In 1908, a fire originating in the forest around Fernie, British Columbia, destroyed that city. Every year thousands of acres are devastated by fires of less individual importance, which in the aggregate are rapidly depleting our forest resources. In 1925 there were unusually disastrous fires, chiefly in Eastern Canada. A total area of about 5,000,000 acres was burned over with a loss of approximately \$45,000,000.

Speaking generally, there are annually two periods in Canada when the forest fire hazard is highest—in the spring, after the disappearance of the snow, when the forest floor is dry and the green underbrush has not yet developed, and again in the fall when the herbaceous growth is dead and the ground covered with dry leaves. Statistics collected by the different government administrations and the Quebec protective associations show that, outside of British Columbia, over 90 p.c. of the fires of known origin are due to human carelessness and therefore preventable.

West of the Rockies the proportion of lightning fires runs from 10 to 25 p.c. Campers, settlers and railways are responsible for most of the fires whose origin is determined. Other causes, including lumbering operations, lightning and incendiarism, account for smaller proportions.

Losses through Insects and Fungi.—From 1912 to 1923 the spruce budworm caused tremendous damage to the spruce and balsam fir forests in Eastern Canada. In Quebec it was estimated that 100 million cords of pulpwood were destroyed by this insect, and in New Brunswick the loss was placed at 15 million cords. In this region the active stage of the infestation is now practically over, but the insect is causing damage in northern Ontario and Cape Breton island. Other insects, though not as destructive as this one, entail a heavy drain on the forest. The hemlock looper and a new species closely related to the spruce budworm are causing considerable damage in eastern coniferous forests. During the last few years dusting by aeroplane has been developed on a practical basis by the Entomological Branch of the Department of Agriculture and promises to be effective in the control of defoliating insects. The loss caused by the various forms of rot and other fungous diseases is probably not less than that caused by insects under normal conditions. The butt rot is especially prevalent in balsam fir, and the value of the hardwoods is also greatly decreased by rot.

Summary of Losses and Increment.—The annual consumption of standing timber for use amounts to about 2,900,000,000 cubic feet. At a very low estimate fire destroys annually about 300,000,000 cubic feet of merchantable timber and the young growth of various ages on 530,000 acres. The destruction occasioned by insects, fungi and windfall is not known, but is estimated at 800,000,000 cubic feet per annum. It may be safely estimated that the forests of Canada are being depleted at the rate of upwards of 4,000,000,000 cubic feet per annum. With about 665,800 square miles of timber in a growing condition, an average annual increment of 10 to 11 cubic feet per acre would be quite possible under forest management and would cover this depletion. In view of the destruction of young growth which occurs and the deterioration of the forests and the soil, caused by repeated fires, there is little hope that this increment is being produced at the present time throughout Canada, although particular areas are producing greatly in excess of this quantity, and extensive reproduction and rate of growth surveys being conducted by the Dominion Forest Service indicate that the increment is greater than previously estimated.

CHAPTER X.—THE FUR TRADE.¹

Historical Sketch.—The place which the fur trade held during the French *régime* in Canada, when for a century and a half it was at once the mainspring of discovery and development and the curse of settled industry, is familiar history. Later, the Hudson's Bay Company may be said with truth to have held the West until the Dominion had grown to absorb it, bequeathing to the civilization which came after a native race accustomed to the white man and an example of organization and discipline that was of lasting value. The salient facts in the story are given in the following paragraphs.

From the earliest times the Basque and Breton fishermen from the "Banks" had traded for furs. As the French court demanded more and more furs, adventurers came for the fur trade exclusively. Pont-Gravé and Chauvin built Tadoussac in 1599 as a centre for this trade with the Indians of the Saguenay and, when trade routes were discovered farther inland, the founding of Quebec and Montreal followed. The French Government from the first granted monopolies of the fur trade, always on the condition that the company should bring to Canada a stated number of settlers. But settlement and the fur trade could never go together—settlement, by driving fur-bearing animals farther afield, made trade increasingly expensive, and the great profits of the fur trade, together with its freedom and romance, took the more adventurous from the rational pursuits of settlers. Trade spread west and south by the river routes, convoys bringing the furs yearly to Montreal and Quebec. The de Caen Company, in the seventeenth century, sent yearly to France from 15,000 to 20,000 pelts. "Beaver" was made the Canadian currency.

In the meantime, English navigators had been seeking a Northwest Passage to the Orient. By 1632 their efforts came to an end with little practical result. Hudson bay, however, had been accurately charted, so that when the first English fur-trading ships came some 30 years later, they sailed by charted routes to a safe harbour. The first expedition came at the instigation of Radisson and Groseilliers, two French *coureurs des bois* who had travelled in the rich fur country north of lake Superior. They had sought aid in France but, being repulsed, turned to England. The charter of the "Adventurers of England trading into Hudson's Bay" was obtained in 1670 by Prince Rupert, uncle of Charles II, who became first Governor of the company (whence the name Rupert's Land). During the struggle with the French, beginning about 1685, no dividends were paid but with the English victory the company resumed payments. Forts were built on Hudson bay and James bay at the mouths of rivers; the company, as monopolist, waited for the furs to be brought to its posts.

With the Seven Years' War, the fur trade from the south passed out of the hands of the French, and until 1771 the English were busy re-discovering the old French routes to the West. A period of open competition followed. The discoverer of a new fur district was soon followed by competitors who undersold him and were undersold by him until some or all were ruined and left for new fields. The Northwest Company, founded in 1783-4, was a result of such competition. No capital was deposited, but each party supplied a proportion of the articles needed for trade. The Northwest Company pursued a vigorous policy, founding posts to control all the best fur districts. The Hudson's Bay Company felt the keenness of the competition, and was forced to abandon its ancient policy of waiting

¹Revised by Miss F. A. Brown, Chief of the Fur Statistics Branch, Dominion Bureau of Statistics. This Branch publishes a detailed Annual Report on the Production of Raw Furs (Wild Life), obtainable from the Dominion Statistician.

for furs to be brought to the bay. By 1816 the rivals had absorbed or ruined eleven other partnerships and were themselves on the verge of ruin. Finally, in 1821, the two were joined under the name of the older company. The Northwest Company brought with it the control of the Pacific and Arctic watersheds, to be added to the lands draining into Hudson bay, and over the whole region the Hudson's Bay Company secured legal recognition of its monopoly of the fur trade. There followed 40 years of great prosperity. The company's rights of exclusive trading in Indian territory expired in 1859, and ten years later it surrendered its other privileges. In return, Canada granted £300,000 to the company, as well as lands about its trading posts, and one-twentieth of the land in the fertile belt between the North Saskatchewan river and the International Boundary. The Hudson's Bay Company thereupon became a trading company, with no extraordinary privileges.

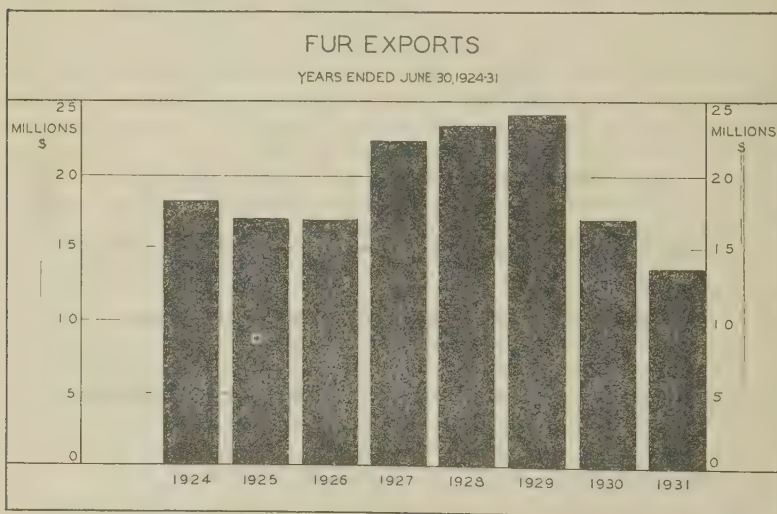
The Modern Industry.—Great changes have come over the fur trade in recent years. The railway has revolutionized conditions wherever its influence reaches. Vessels now ply the larger lakes and rivers. Competition has increased and new territory is eagerly sought as in the days prior to 1821. Increase in trapping and improved methods of capture, together with the advance of lumbering, mining and agricultural settlement, have driven fur-bearing animals farther and farther afield, and to conserve the fur resources of the country the provinces have found it necessary to enact laws to regulate the capture of fur-bearing animals and to provide for closed seasons during certain periods of each year. The fur trade has assisted in meeting the demand for furs by popularizing common and previously despised furs and by encouraging the use of the furs of domestic animals. Fur farming is playing an increasingly important part in the fur trade of Canada, the value of pelts of ranch-bred animals now representing about 19 p.c. of the total annual value of the raw fur production of the Dominion. The fox has proved the best suited for domestication, although other kinds of fur-bearers are being successfully raised in captivity—mink, raccoon, skunk, marten, fisher, muskrat and beaver. The successful breeding of the fox on fur farms came in the period of rising prices after 1890 and the introduction of woven wire fencing. About the middle of the last century Persian lamb, astrachan and broadtail, the product of the Karakul sheep a native of Bokhara, Central Asia, came into general use. A few of these sheep were imported into Canada some years ago, but the industry as a source of supply for pelts has not shown progress in this country. Experiments in the breeding of rabbits for their fur have resulted in the production of several valuable kinds, chief among which is the Chinchilla rabbit, whose fur resembles that of the Bolivian Chinchilla.

The important markets for Canadian furs are London and New York: the trade figures for the twelve months ended June 30, 1930, show that of the total of \$17,187,399 worth of raw furs exported, the United Kingdom received \$9,453,322 and the United States, \$6,972,456. At the close of the Great War Montreal took a position as an international fur market, holding the first Canadian fur auction sale in 1920 when 949,565 pelts, valued at \$5,057,114, were sold. The most recent figures show that at the auction sales held in Montreal during 1930 there were 2,328,977 pelts disposed of, with a total value of \$5,387,400. Sales are also held at Winnipeg and Edmonton. An important industry in Canada in connection with the fur trade is that of the dressing and dyeing of furs. In 1930 the number of fur skins treated in Canadian plants was 7,142,035 compared with 7,633,909 in 1929 and 7,974,020 in 1928. The plants in operation numbered 10 in 1930, 10 in 1929, and 12 in 1928.

Exports.—Though the bison is gone forever and the beaver and the marten are slowly following, the fur trade of Canada is in no immediate danger of extinction.

A century ago the value of the export trade in furs exceeded that of any other product. This has been greatly changed, yet the total output has not declined and Canada may be described as one of the great fur preserves of the world. In 1667 exports of furs to France and the West Indies were valued at 550,000 francs. In 1850, the first year for which trade tables of the Customs Department are available, the value of raw furs exported was £19,395 (\$93,872); for the twelve months ending June 30, 1920, the value was \$20,417,329; for 1925, \$17,131,172; for 1928, \$23,598,259, for 1929, \$24,181,208 and for 1930, \$15,357,386. Raw furs to the value of \$13,544,088 were exported during the twelve months ended June 30, 1931, the British market absorbing \$7,456,594 worth and the United States most of the rest. The chart below shows the fluctuation of fur exports between the seasons 1924 and 1931. Canadian manufactures of furs and the home consumption are annually increasing with the growth of wealth and population. The area which will continue to furnish the historic peltries when settlement has planted its furthest outpost will still have to be reckoned by the hundreds of thousands of square miles. It is the function of the fur trade to turn this vast domain to perpetual economic use.

For a review of the fur farming industry of Canada, see Appendix III.



Conservation.—The conservation of the wild life of Canada has been made a special object of government policy through the organization, in 1916, of the Advisory Board on Wild Life Protection, to co-ordinate the efforts of various Departments and Branches of the Dominion Government in matters relating to the conservation of the wild-life resources of Canada. The Northwest Game Act and the Migratory Birds Convention Act are the most important subjects to which the attention of the Board is specially directed and upon which it makes recommendations. In addition, the Board investigates and studies all problems relating to the protection and better utilization of all fur-bearing animals, "big game" mammals and to bird life, whether game birds, insectivorous birds or others. The Board serves entirely without remuneration and during the whole period of its existence has incurred no expenditure.

In all provinces and territories of the Dominion, regulations governing the taking of fur-bearing animals are in force, and most kinds are protected during certain seasons of the year. In cases where special protection is necessary to avoid extermination of the species, the killing of the animals is prohibited over a period of years. Licences are required for trapping and trading, and direct revenue is derived by the provinces and territories from raw furs. The activities of the Dominion as a whole, with respect to wild life, are co-ordinated through biennial conferences of provincial and Dominion game protection officials. These conferences are called by the Department of the Interior, and have assisted in evolving efficient plans for the preservation of Canada's wild-life resources.

Fur Trade Statistics.—Statistics of the number and value of raw furs and skins taken were collected at the decennial census of 1881 and thereafter till 1911, the figures showing a value of \$987,555 taken in 1880, \$768,983 in 1890, \$899,645 in 1900 and \$1,927,550 in 1910. In 1920 the Dominion Bureau of Statistics commenced the annual collection of returns from fur traders, but arrangements were subsequently made with the provinces whereby the provincial game departments undertook to supply annually to the Bureau, statements of the number and value of pelts taken in the respective provinces, the information being based on royalties, export taxes, etc. The figures of pelts taken and their values are given for the available years in Table 1. The high value shown for 1920 is due to the inflated prices of that time.

1.—Summary of the Numbers and Values of Pelts of Fur-bearing Animals Taken in Canada, years ended June 30, 1920-30.

Year ended June 30.	Pelts.	Value of Pelts.
	No.	\$
1920.....	3,600,004	21,387,005 ¹
1921.....	2,936,407	10,151,594
1922.....	4,366,790	17,438,867
1923.....	4,963,696	16,761,567
1924.....	4,207,593	15,643,817
1925.....	3,820,326	15,441,564
1926.....	3,686,148	15,072,244
1927.....	4,289,233	18,864,126
1928.....	3,601,153	18,758,177
1929.....	5,150,328	18,745,473
1930.....	3,798,444	12,158,376

¹ Fur prices in this year were abnormally high. Any comparison of this figure with those of later years should take this into account.

Details by provinces of the number of pelts taken in the two latest years are given in Table 2.

2.—Numbers and Values of Pelts of Fur-bearing Animals Taken in Canada, years ended June 30, 1929 and 1930.

Province.	Numbers of Pelts.		Values of Pelts.	
	1928-29.	1929-30.	1928-29.	1929-30.
			\$	\$
Prince Edward Island.....	11,518	8,962	794,611	646,685
Nova Scotia.....	61,763	63,337	442,096	531,990
New Brunswick.....	74,810	54,812	551,663	351,709
Quebec.....	305,509	277,410	2,589,955	1,658,358
Ontario.....	1,011,262	910,223	4,346,894	2,880,039
Manitoba.....	380,151	392,483	1,292,275	809,673
Saskatchewan.....	1,006,432	740,415	2,208,546	1,328,545
Alberta.....	1,669,551	770,364	2,473,185	1,174,163
British Columbia.....	281,503	252,202	1,449,786	849,276
Northwest Territories.....	312,093	219,604	2,111,543	1,632,446
Yukon.....	35,736	108,632	484,919	295,492
Totals.....	5,150,328	3,798,444	18,745,473	12,158,376

Among the provinces Ontario occupies first place in order of value of raw fur production, its output in 1929-30 being valued at \$2,880,039. Quebec is second in importance with a total of \$1,658,358, followed by the Northwest Territories with \$1,632,446, Saskatchewan with \$1,328,545, and Alberta with \$1,174,163. The following percentages (which together make more than 50 p.c. of the whole) show the relation which the figures for the two chief provinces and the Northwest Territories bear to the total value of raw fur production in Canada in 1929-30: Ontario, 23·69; Quebec, 13·64; the Northwest Territories, 13·43. In Ontario, Manitoba and Saskatchewan the muskrat is of chief importance as a fur producer, while in the Maritime Provinces, in Quebec and in Alberta, the silver fox ranks highest in total value of pelts. In British Columbia the beaver is first, in the Northwest Territories the white fox, and in the Yukon Territory the marten. Details by kinds are given in Table 3.

It will be noted that silver fox is the leader, followed by muskrat, white fox, beaver and mink. The total number of pelts in 1929-30 was 3,798,444, a decrease of 1,351,884 from the preceding season. Among the higher priced pelts taken in greater numbers than in the previous year were fox (silver, white, blue and unspecified), mink and otter; as regards value, however, only white fox, blue fox, and fox (unspecified) showed increases.

3.—Kind, Number, Total Value and Average Value of Pelts of Fur-bearing Animals Taken in Canada, years ended June 30, 1929 and 1930.

Kind.	Numbers of Pelts.		Total Values of Pelts.		Average Values per Pelt.	
	1928-29.	1929-30.	1928-29.	1929-30.	1928-29.	1929-30.
			\$	\$	\$	\$
Badger.....	34,761	14,793	740,285	269,653	21·30	18·23
Bear, black and brown.....	6,694	6,424	45,473	38,431	6·79	5·98
Bear, grizzly.....	56	26	684	316	12·21	12·15
Bear, white.....	304	331	6,472	4,598	21·29	13·89
Bear, unspecified.....	134	164	1,262	1,181	9·42	7·20
Beaver.....	57,043	47,775	1,517,706	1,025,033	26·61	21·46
Coyote or prairie wolf ¹	51,736	32,411	847,679	468,475	16·38	14·45
Ermine (weasel).....	888,964	719,909	1,198,858	625,328	1·35	0·87
Fisher or pekan.....	6,606	4,274	397,185	240,700	60·12	56·32
Fox, cross.....	8,472	6,662	638,241	397,501	75·34	59·67
Fox, red.....	37,964	28,719	1,132,186	624,410	29·82	21·74
Fox, silver.....	26,259	33,555	2,738,373	2,716,264	104·28	80·95
Fox, blue.....	316	827	23,090	44,666	73·07	54·01
Fox, white.....	18,572	37,617	993,259	1,238,917	53·48	32·94
Fox, unspecified.....	164	318	4,760	5,789	29·02	18·20
Lynx.....	11,604	7,621	545,703	298,180	47·03	39·13
Marmot.....	—	138	—	69	—	0·50
Marten or sable.....	34,497	27,396	1,081,350	516,817	31·35	18·86
Mink.....	79,548	81,328	1,663,114	1,010,198	20·91	12·42
Muskrat.....	2,785,994	2,109,232	3,924,949	1,781,651	1·41	0·84
Otter.....	10,691	12,518	361,753	344,212	33·84	27·50
Rabbit (Chinchilla).....	—	121	—	109	—	0·90
Rabbit (other).....	236,163	232,501	31,059	23,225	0·13	0·10
Raccoon.....	25,576	22,776	203,044	148,540	7·94	6·52
Skunk.....	118,196	103,681	222,240	137,544	1·88	1·83
Squirrel.....	686,612	252,476	135,351	33,154	0·20	0·13
Wild cat.....	1,728	827	11,742	5,469	7·80	6·61
Wolf ¹	13,162	7,798	243,747	137,219	18·52	17·59
Wolverine or carcajou.....	1,397	1,015	25,003	9,871	17·90	9·73
Caribou.....	446	428	1,069	1,290	2·40	3·01
Deer.....	2,439	2,183	5,116	4,659	2·10	2·13
Moose.....	456	541	1,498	2,863	3·29	5·29
Panther or cougar.....	530	492	2,539	1,657	4·79	3·87
Civet cat.....	229	408	151	130	0·66	0·32
Domestic cat.....	1,513	801	457	239	0·30	0·30
Gopher.....	1,502	358	75	18	0·05	0·05
Totals.....	5,150,328	3,798,444	18,745,473	12,158,376	—	—

¹Coyote or prairie wolf pelts for Manitoba are included with wolf pelts.

CHAPTER XI.—THE FISHERIES.¹

Section 1.—The Early Fisheries.

Fishing is one of the earliest and most historic industries of Canada. From a date which precedes authentic record, the Normans, the Bretons and the Basques were on the cod banks of Newfoundland. Cabot, in 1498, when he first sighted the mainland of North America, gave it the name of "Bacalaos", the Basque word for cod fish which he found already in use among those hardy seamen. Cape Breton, one of the oldest place-names in America, is another memorial of the early French fishermen—and the Spaniards and the Portuguese were but little behind. Fernandez de Navarrete mentions all three as frequenters of the Grand Bank before 1502. The fishing was by hand lines over barrels made fast to the bulwarks to prevent fouling, the vessels remaining during fine weather then returning to France with from 30,000 to 50,000 cod. Voyages along the coast soon showed the cod as plentiful inshore as on the outer banks, and it became common for a crew to anchor in a bay, erect a hut on shore, and make daily excursions to the fishing grounds. The product was salted and dried on land and at the end of the season shipped to France. In 1534 Jacques Cartier found traces in the gulf of St. Lawrence of these early "Captains Courageous" and their rivalries in arms, as well as in the capture of the teeming product which had tempted them so far from home. An establishment of the kind just mentioned was founded at Tadoussac by Chauvin in 1599. Soon the fishermen began to stay all winter and thus to erect permanent fishing settlements. Fishing, therefore, may well be regarded as the first industry to be systematically prosecuted by Europeans in what is to-day the Canadian domain. It has never since ceased to yield a perennial harvest to both Europe and America.

By the Treaty of Utrecht in 1713, Britain became the owner of Newfoundland and excluded France from fishing and drying fish on certain sections of the coast, but France retained the fisheries of Cape Breton and the gulf. The Seven Years' War (1756-1763) put a stop to continuous fishing. At its close the Robin family of Jersey came to Canada and gradually acquired the former French fishing stations. Until the arrival of the Loyalists all other fishing but cod was neglected. Inshore fisheries alone (including those of the Labrador coast) were developed during this phase; no deep-sea fishing vessel put out from Lunenburg, now the chief centre of the deep-sea fishery, until 1873.

Section 2.—The Canadian Fishing Grounds.

The fishing grounds of the Dominion of Canada are perhaps the most extensive in the world. On the Atlantic, from Grand Manan to Labrador, the coast line, not including the lesser bays and indentations, measures over 5,000 miles. The bay of Fundy, 8,000 square miles in extent, the gulf of St. Lawrence, fully ten times that size, and other ocean waters comprise not less than 200,000 square miles, or over four-fifths of the area of the fishing grounds of the North Atlantic. In addition there are on the Atlantic seaboard 15,000 square miles of inshore waters controlled

¹ Revised by Miss F. A. Brown, Chief, Fisheries Statistics Branch, Dominion Bureau of Statistics. This Branch publishes an Annual Report on the Fisheries Statistics of Canada, together with advance summaries on Fish Caught, Marketed and Prepared, by provinces. These may be obtained from the Dominion Statistician.

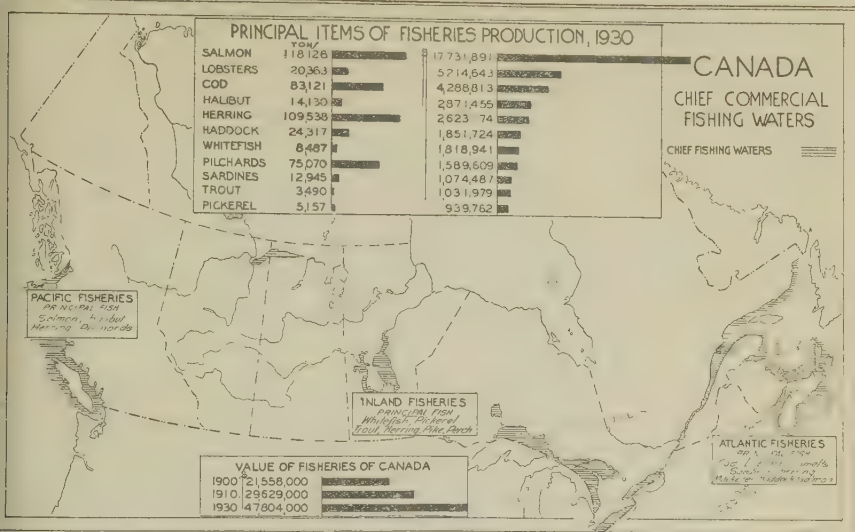
entirely by the Dominion. Large as are these areas, they represent only a part of the fishing grounds of Canada. The Pacific coast of the Dominion measures 7,180 miles in length and is exceptionally well sheltered. Throughout the interior is a series of lakes which together contain more than half of the fresh water on the globe, Canada's share of the Great Lakes alone amounting to over 34,000 square miles, a total which of course does not include lake Winnipeg (9,457 square miles), lake Manitoba and others of even greater area.

Still more important than the extent of the Canadian fishing grounds is the quality of their product. It is an axiom among authorities that food fishes improve in proportion to the purity and coldness of the waters from which they are taken. Judged by this standard, the Canadian cod, halibut, herring, mackerel, whitefish and salmon are the peers of any in the world. It is possible, therefore, to state that by far the most valuable fisheries of the western hemisphere, if not of the globe, belong to Canada.

It will be seen from the above that it is impossible to deal adequately with the Canadian fisheries in the aggregate; they are those of a continent rather than of a country, and are of corresponding diversity. Omitting the enormous Hudson Bay and peri-Arctic region, which extends from Ungava to Alaska and the fish resources of which are not known, the Canadian fisheries may be divided into Atlantic, inland and Pacific fisheries.

Atlantic Fisheries.—These were the first Canadian fisheries in point of time, and until 1918 they remained the most important in aggregate value of product. Cod, halibut, haddock, hake, herring, mackerel, lobster, oyster, and hair seal fisheries are included. The estuarian and inland waters of the Maritime Provinces and of Quebec are sometimes considered as distinct; if they are added the list of products would embrace the salmon, the shad, the gaspereau (alewife), the smelt, the striped bass, the tom cod, the trout and the maskinonge. Conditions are fairly uniform throughout these fisheries, which are commonly divided into the inshore and deep-sea fisheries. The inshore or coastal fishery is carried on in small boats, usually motor-driven, with crews of two or three men, and in small vessels with crews of from four to seven men. The means of capture employed by boat fishermen are gill nets and hooks and lines (both hand lines and trawls); trap nets, haul seines and weirs are operated from the shore. Haddock as well as cod is a staple product; during the spring and summer it is split and salted, but the important season is the autumn, when the fish are shipped fresh or else smoked and sold as finnan haddie. The deep-sea fisheries are worked by vessels of from 40 to 100 tons, carrying from 12 to 20 men, operating with trawl lines from dories. The fleets operate on the various banks, such as Grand Bank, Middle Ground and Banquereau. The vessels, built by native hands, remain at sea sometimes for months at a time and, in the hands of sailors who have no superior, seldom come to grief. When they return, the fish, principally cod which have been split and salted on board, are taken ashore, washed and dried; the West Indies provide the chief market for this product. No cod fish in the world stands the tropical climate like that cured by Nova Scotian fishermen. Steam trawling, as it is carried on in the North Sea, was introduced on the Atlantic coast of Canada several years ago. There are now several steam trawlers operating from Nova Scotian ports. They operate practically the whole year and their catches are utilized entirely for the fresh-fish trade.

Lobstering is another distinctive industry. In 1870, there were three lobster canneries on the Atlantic coast of Canada; in 1930 the canneries numbered 333 and



gave work to 5,600 people; 30,000,000 lobsters is a normal catch. The difficulty of enforcing regulations as to the capture of undersized and spawning lobsters offers a constant problem in connection with the output, but the recent decline is now thought to have been arrested. In New Brunswick the canning of "sardines" (locally young herring and not a distinct type of fish) is second only to lobstering. Oysters, once plentiful everywhere, are now found in diminished quantities, but the Dominion Department of Fisheries is encouraging oyster farming; favourable areas in Prince Edward Island waters are to be seeded under expert direction.

The fishing population of the Maritime Provinces is a specialized and stable industrial class. The coast fisheries are operated from April to November, or to January in sheltered districts, and, though the larger vessels work all winter, several thousand men are available for a time each year for other employment. This they find about the small plots of land which most of them own or occupy, in the lumber camps of New Brunswick or about the collieries of Nova Scotia. A few from Lunenburg and other centres engage in the West Indian trade. Apart from restrictions of weather and closed seasons the prevailing method of paying the men on shares has a further tendency in years of low catches or prices to drive them into secondary occupations.

Inland Fisheries.—The Great Lakes and tributary waters of the St. Lawrence form a second great division of the Canadian fisheries. Whitefish, trout, perch, pickerel and lake herring are the most important commercial fishes of Ontario, though pike, sturgeon and coarse fish yield a fair return. The value of the inland fisheries of Quebec lies chiefly in the output of the eel and pickerel fisheries. The season on the Great Lakes lasts from six to eight months and, though fishing through the ice is followed by many, a large number depend on miscellaneous employment between the seasons. Moving westward, lake Winnipeg, lake Winnipegosis, lake Manitoba and the smaller lakes to the north and west furnish most of the fish products of Manitoba. Whitefish and pickerel are the chief products,

but pike, tullibee, goldeye and many other varieties abound. In Saskatchewan and Alberta, commercial fishing is confined to the regions north of the Saskatchewan river, where whitefish in large quantities are taken. The problem of transportation is keenly felt; some of the greatest lakes of the continent—Reindeer, Athabaska, Great Slave, Great Bear—and hundreds of smaller bodies of water are still beyond reach from a marketing point of view. The lakes of the West, however, repeating the part which the St. Lawrence played in the days of the French *régime* and the cod banks in the history of New England, have assisted greatly in the settlement of the country by providing a much needed food supply for the pioneers.

Pacific Fisheries.—In British Columbia there is an interior fishing region which corresponds in the main to the prairie section; in the early history of the province it is doubtful if the fur trade (which opened the door by way of the Rocky mountains to later enterprise) could have established its footing but for these fisheries. The great piscatorial wealth of British Columbia, however—the source from which she produces approximately two-fifths of the fish products of Canada—and has built up a trade which reaches to the ends of the earth—is the estuarian salmon fisheries of the Fraser, the Skeena, the Nass and other rivers of the Pacific slope. Every species of this king of food fishes (which, however, is not the true salmon) known to the waters of the Pacific is to be found in the British Columbia coast waters—the sockeye, the spring, the coho, the pink and the chum salmon. Of these the sockeye is by far the most important, owing to its abundance and its prevailing deep red colour and excellent texture which have created so keen a demand for it in the British market. On the Fraser river, which used to be the chief source of supply but has now yielded place to the Skeena and other northern waters, the yield varies to a considerable extent from year to year. The run begins late in July and is at its height in the opening weeks of August, though the northern rivers have a somewhat earlier season. The spring or quinnat salmon is a much larger fish; it was the species first used in the United States for canning. The run begins early in the spring and continues until July. The cohoes are smaller, running like the sockeye in compact schools during September and October on the Fraser and earlier on the northern streams. The chum salmon is salted and canned, the salted product going chiefly to the Orient. The pink salmon, again, follows the sockeye. Many of the employees in this industry are Chinese, Japanese and Indians, the Chinese preponderating in the canneries and the Indians and Japanese in fishing operations.

Until recent years the other coastal fisheries of British Columbia were only slightly developed. Halibut abounds off Vancouver island and between the Queen Charlotte islands and the mainland and, though the first endeavour to establish an industry was unsuccessful, by 1903 British Columbia supplied 10,000,000 pounds of the 25,000,000 taken on the whole Pacific coast north of California. The former figure has since trebled. Similarly, the herring industry remained undeveloped until recently. There is also the whale fishery, which has now two stations on the Queen Charlotte islands. The yearly catch includes whales of many kinds—sulphur bottom, finback and humpback, with an occasional sperm whale. Whale hunting is carried on in fast boats with Svend Foyn harpoon guns—a method which was introduced from Norway. Every scrap of the whale is used—oil, whalebone and meal are its most important products. Black and ling cod, oulachon, flounders, skate, soles, smelts, pilchards and sturgeon are also abundant in British Columbia waters.

A word might be added with regard to the fur-seal fisheries of the Pacific whose historic headquarters was the city of Victoria. The industry has disappeared

in part through the scarcity of the animals and in part through the workings of the Pelagic Sealing Treaty of 1911.¹ This treaty was made in the interests of conservation of the seal herds and under its terms pelagic or open-sea fishing is prohibited. As compensation for the suspension of her sealing privileges Canada receives annually from the United States, Russia and Japan a share of the proceeds of the sealing on the Pribilof islands and other rookeries owned by the respective countries.

Game Fish.—The above is a purely industrial and commercial survey. Fishing for sport, however, has its economic side in a country of such famous game fish as the salmon of the Restigouche, the black bass of the Quebec and Ontario highlands, the trout of the Nipigon, and the salmon, the trout and the bass of British Columbia. A considerable public revenue is derived from the leasing of waters in sparsely settled districts to clubs and individuals for sporting purposes. Several hundred guides find employment here during the summer months.

Section 3.—The Government and the Fisheries.

Upon the organization of the Government at Confederation, the administration of the Canadian fisheries and marine was placed in the charge of a Department of the Dominion Government, which then exercised complete jurisdiction over the fisheries under the supervision of a Cabinet Minister, with a large staff of inspectors, overseers and guardians to enforce the fishery laws. Early in 1930 a change in departmental organization was effected, whereby two departments, each in charge of a Cabinet Minister, were created to administer respectively the Marine and the Fisheries.

In 1882, 1898, 1913 and 1920, decisions in the courts considerably altered the status of jurisdiction as between the Dominion and the provinces. The Dominion now controls the tidal fisheries of the Maritime Provinces and British Columbia and the fisheries of the Yukon and Northwest Territories. The non-tidal fisheries of the Maritime Provinces, the Prairie Provinces and Ontario, and both the tidal and non-tidal fisheries of Quebec (except the fisheries of the Magdalen islands) are controlled by the respective provinces, but the right of fisheries legislation for all provinces rests with the Dominion Government. See the Fisheries Act (R.S.C. 1927, c. 73). The expenditure of the Dominion on the fisheries in the fiscal year 1930-31, including Civil Government salaries, contingencies, etc., was \$2,435,299, and the revenue \$136,935.

Conservation.—River and lake fisheries certainly, and sea fisheries probably, if left to themselves, conform to the economic law of diminishing returns. The Canadian Government, accordingly, has had for a main object the prevention of depletion, the enforcement of closed seasons, the forbidding of obstructions and pollutions and the regulation of nets, gear and fishing operations generally. In addition, an extensive system of fish culture has been organized; the Dominion, in 1930, operated 29 main hatcheries, 10 subsidiary hatcheries and 7 salmon-retaining ponds at a cost of \$322,586, and distributed 479,412,046 eggs, fry or older fish, mostly B.C. salmon, pickerel and whitefish. The young fish are distributed gratis if the waters in which they are to be placed are suitable and are open to public fishing.

Direct Assistance.—Since 1927 fish collection services have been operated on several stretches of the Atlantic coast by the Fisheries Branch of the former Depart-

¹For the text of this treaty, see pp. lxxvii-xciii of the Statutes of Canada, 1912.

ment of Marine and Fisheries and by the present Department of Fisheries. Fishermen in the territories covered by the fish-collection boats are thus enabled to sell their catches promptly and have them delivered to purchasers at central points at small cost. They are also able to spend their time in catching fish instead of in preparing their catches for the dried and cured-fish markets. Again a system has been established of broadcasting radio reports as to weather probabilities, bait and ice supplies, ice conditions along the coast and prevailing prices. Further, under authority of the Fish Inspection Act (R.S.C. 1927, c. 72), systems of instruction in improved methods of fish curing and barrel making have been in operation for several years.

Scientific Research.—Stations under the direction of the Biological Board of Canada for the conduct of biological research into the numerous complex problems furnished by the fisheries are established at Halifax, N.S., St. Andrews, N.B., and Nanaimo and Prince Rupert, B.C.; Toronto, McGill, Queen's, Manitoba, British Columbia and the chief Maritime Province universities send workers to these stations, chiefly professors and trained specialists. The life-histories of edible fishes, the bacteriology of fresh and cured fish, improved methods of handling and preparing fish, and numerous other practical problems have been taken up and scientific memoirs and reports issued.

International Problems.—The chief international fisheries problem is the question of the rights of the United States, whose fishermen were granted, by the Treaty of Versailles, certain privileges in the Canadian inshore fisheries. Losing these by the war of 1812, the United States, after 1818, surrendered all but their liberty to call at Canadian ports for shelter, wood, water, or to make repairs, and to fish around the Magdalen islands and on the north shore of the gulf of St. Lawrence from Point Joli eastward, and to dry and cure their fish in any of the unsettled bays on this portion of the North Shore.

Questions of interpretations to be placed on certain parts of the Treaty of 1818 were set at rest for the years 1854-1866 by the Reciprocity Treaty. This treaty provided for the free admission into either country of the fish products of the other, and fishermen of each country were allowed to fish in the Atlantic territorial waters of the other, with the exception of specified rivers and other grounds.

In 1871, the Treaty of Washington revived the fishery provisions of the Reciprocity Treaty of 1854, and provided for a commission to determine the compensation to be paid by the United States to Great Britain as the difference in the value of the concessions mutually granted. This commission sat at Halifax in 1877, handing down the "Halifax Award", the amount of which was \$5,500,000. In 1885, however, the United States terminated the fisheries articles of this treaty and a period of disagreement followed. A settlement was negotiated in 1888, when the plenipotentiaries of the two nations agreed to the "Unratified Treaty of 1888", which contained the provision that United States fishing vessels were to be granted, without fee, annual licences authorizing them to purchase provisions and outfits in Canadian ports to transship catches and to ship crews. Out of this treaty grew the so-called *modus vivendi* licences. Since it was recognized that the treaty could not receive official sanction before the commencement of the fishing season, it was agreed that the United States fishing vessels, on payment of \$1.50 per registered ton, should receive annual licences conveying the above privileges. The treaty was rejected by the United States Senate but Canada continued to issue *modus vivendi* licences up to 1918, when arrangements were made for reciprocal privileges in the ports of either country. The arrangement was discontinued in

the United States on July 1, 1921. In the following year the *modus vivendi* licences were revived in Canada but the system was terminated on Dec. 31, 1923, and the United States fishing vessels are now limited to the provisions of the Treaty of 1818.

On the Great Lakes also, the more important fishery problems, such as restocking and marketing, are necessarily international in character, and are complicated by the number of State Governments interested. Much the same situation has developed in British Columbia, where the sockeye of the Fraser are taken by the canners of Puget sound in quantities that largely exceed the catch of the Canadian canners, and by trap nets and other methods forbidden in Canadian waters. In 1906 an International Commission first discussed the question, while in 1922 the prohibition of sockeye fishing in the Fraser for five years, with a view to conservation, was recommended by a Parliamentary Commission.

The Halibut Fishery.—The halibut fishery on this side of the Pacific is engaged in only from Canadian and United States ports, but, owing to the fact that it is largely carried on beyond territorial waters, neither country alone can control it. At the same time it is in the interests of both countries that the fishery should be permanently maintained in a flourishing condition. The question of finding an adequate method of dealing with the matter was therefore one of those referred to the Canadian-American Fisheries Conference that was appointed in 1918 by the Governments of the two countries to consider a settlement of outstanding fishery questions between Canada and the United States. In 1922 Canada proposed that the halibut question should be considered by itself. This was agreed to, and resulted in the treaty signed Mar. 2, 1923, "For the Protection of the Pacific Halibut". Under this treaty a closed season is provided for halibut fishing from Nov. 16 in each year to Feb. 15 following, both dates inclusive. This treaty was ratified on Oct. 21, 1924, and became effective Nov. 1, 1924 (see c. 75 of the Revised Statutes of Canada, 1927). A further convention, signed by the plenipotentiaries of both countries at Ottawa on May 9, 1930, and effective from May 9, 1931, extended the closed season for halibut fishing to cover the period Nov. 1 in each year to Feb. 15 following, both dates inclusive, such convention to remain in force for a period of five years and thereafter until two years from the date when either country shall give notice to the other of its desire to terminate it. This revised convention provides a simpler and more responsive system of control than was previously possible.¹

Fishing Bounties.—An important though indirect aftermath of the Washington Treaty remains. By an Act of 1882 (45 Vict., c. 18), for the development of the sea fisheries and the encouragement of boat-building, provision was made for the distribution annually among fishermen and the owners of fishing boats of \$150,000 in bounties, representing the interest on the amount of the Halifax Award. An Act of 1891 (54-55 Vict., c. 42), increased the amount to \$160,000, the details of the expenditure to be settled each year by Order in Council. For the year 1930 payment was made under authority of the Deep Sea Fisheries Act (R.S.C. 1927, c. 74) on the following basis: to owners of vessels entitled to receive bounty, \$1 per registered ton, payment to the owner of any one vessel not to exceed \$80; to vessel fishermen entitled to receive bounty, \$7.20 each; to owners of boats measuring not less than 12 feet keel, \$1 per boat; to boat fishermen entitled to receive bounty, \$6.35 each. The claims paid numbered 10,308, compared with 9,546 paid in the previous year. The total amount paid in 1930 was \$159,774. Details of the distribution of bounties for the years 1927 to 1930 are as follows:—

¹A pamphlet containing the text of this revised convention may be had on application to the Department of Fisheries, Ottawa.

1.—Government Bounties Paid to Fishermen for the calendar years 1927-30.

Province.	Number of Men who Received Bounties.				Amount of Bounties Paid.			
	1927.	1928.	1929.	1930.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	\$	\$	\$	\$
Prince Edward Island.....	1,713	1,309	1,473	1,400	12,095	9,334	10,745	9,809
Nova Scotia.....	9,564	9,470	10,036	10,024	82,107	79,078	83,459	80,070
New Brunswick.....	2,223	2,240	2,504	2,849	19,907	19,388	20,311	23,414
Quebec.....	6,222	6,214	6,294	6,745	44,267	43,611	45,248	46,501
Totals.....	19,722	19,233	20,307	21,018	158,376	151,411	159,763	159,794

Fisheries Statistics.—The fisheries statistics of Canada are issued under an arrangement for statistical co-operation between the Dominion Bureau of Statistics and the Branches of the Dominion and Provincial Governments, having jurisdiction with regard to fisheries, throughout Canada. These Branches comprise the Fisheries Department of the Dominion Government, exercising jurisdiction over the fisheries of the Maritime Provinces, the Territories and British Columbia; and the Fisheries Branches of Ontario, Quebec, Manitoba, Saskatchewan and Alberta, which have jurisdiction over the fisheries of their respective provinces, excepting that in the case of Quebec the fisheries of the Magdalen islands are under the jurisdiction of the Dominion authorities. The province of British Columbia has a Fisheries Branch, but it does not engage in independent statistical work. Under the arrangement above referred to, the statistics of the catch and of the products marketed in the fresh state or domestically prepared are collected by the local fishery officers, checked in the Department of Fisheries and compiled in the Dominion Bureau of Statistics. In the case of manufactured fish products, schedules similar to those of other sections of the Census of Industry are sent by the Bureau to the operators of canneries, fish-curing establishments, etc., the fisheries officers assisting in securing expeditious and correct reports.

Section 4.—The Modern Fishing Industry.

The existing fishing industry of Canada is in the main the growth of the past half century. No comparable figures of production are available prior to the Confederation of the provinces, but about 1836 the production of fish in what are now the three Maritime Provinces had an estimated value of something like \$1,500,000, while the production of Lower Canada was probably worth \$1,000,000. In 1870 the total was \$6,600,000 and this was again more than doubled by 1878. In the '90's it passed \$20,000,000 and in 1912, \$34,000,000. The highest figure was reached in 1918, with over \$60,000,000, but this was in a period of greatly inflated prices. Between that year and 1921 the total value of the products of the fisheries decreased and in the latter year was back to \$34,000,000. From 1921 to 1926 a steady increase to \$56,000,000 took place and since then the value has fluctuated around the \$50,000,000 mark (these figures represent the total values of fish marketed, whether in a fresh, dried, canned, or otherwise prepared state).

The number of employees, which was 80,450 in 1929, decreased to 79,558 in 1930 and the capital invested in the industry, \$60,000,000 in 1918 and \$62,579,000 in 1929, increased to \$64,026,297 in 1930.¹

¹For detailed historical statistics of the fisheries, see pp. 55-58 of *Fisheries Statistics of Canada, 1930*, obtainable from the Dominion Statistician.

Among individual fish products the cod and the salmon long disputed the primacy; if the record is taken back to early times, the cod is the most valuable fishery; in the past 20 years, however, the salmon has definitely taken the lead, and the heavy pack and relatively high price of lobsters have more than once sent cod down to third place as in 1927, 1929 and 1930, while halibut takes fourth place among the chief commercial fishes. These changes have, of course, affected the relative standing of the provinces, British Columbia now occupying the leading place that in earlier times belonged to Nova Scotia, and producing in recent years nearly half the total value. The yearly record of production since 1870, the total production by provinces for the past six years, and the record by principal fish products for the past five years in descending order of importance, are shown in Tables 2, 3 and 4. The aggregate value of production in 1930, \$47,804,216, shows a decrease of 10·7 p.c. from the figure of \$53,518,521 in 1929. The catch was 6·7 p.c. larger while average prices were 6·5 p.c. lower, the lower prices of salmon being the predominating factor.

2.—Total Values of the Products of the Fisheries of Canada, 1870-1930.

NOTE.—From 1870 to 1906 inclusive, years ended June 30; from 1908 to 1917 (a) inclusive, years ended Mar. 31; since and including 1917 (b), calendar years. No statistics are available for the nine months' period ended Mar. 31, 1907.

Year.	Value.	Year.	Value.	Year.	Value.	Year.	Value.
	\$		\$		\$		\$
1870.....	6,577,391	1885.....	17,722,973	1909.....	21,557,639	1916.....	35,860,708
1871.....	7,573,199	1886.....	18,679,288	1901.....	25,737,153	1917 (a)....	39,208,378
1872.....	9,570,116	1887.....	18,386,103	1902.....	21,959,433	1917 (b)....	52,312,044
1873.....	10,754,997	1888.....	17,418,510	1903.....	23,101,878	1918.....	60,259,744
1874.....	11,681,886	1889.....	17,665,256	1904.....	23,516,439	1919.....	56,508,479
1875.....	10,350,385	1890.....	17,714,902	1905.....	29,479,562	1920.....	49,241,339
1876.....	11,117,000	1891.....	18,977,878	1906.....	26,279,485	1921.....	34,931,935
1877.....	12,005,934	1892.....	18,941,171	1908.....	25,499,349	1922.....	41,800,210
1878.....	13,215,678	1893.....	20,686,661	1909.....	25,451,085	1923.....	42,555,545
1879.....	13,529,254	1894.....	20,719,573	1910.....	29,629,169	1924.....	44,534,235
1880.....	14,499,979	1895.....	20,199,338	1911.....	29,965,433	1925.....	47,942,131
1881.....	15,817,162	1896.....	20,407,425	1912.....	34,667,872	1926.....	56,360,633
1882.....	16,824,092	1897.....	22,783,546	1913.....	33,389,464	1927.....	49,123,609
1883.....	16,958,192	1898.....	19,667,121	1914.....	33,207,748	1928.....	55,050,973
1884.....	17,766,404	1899.....	21,891,706	1915.....	31,264,631	1929.....	53,518,521
						1930.....	47,804,216

3.—Total Values of the Products of the Fisheries, by Provinces, calendar years 1925-30.

Province.	1925.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$	\$
Prince Edward Island.....	1,598,119	1,358,934	1,367,807	1,196,681	1,297,125	1,141,279
Nova Scotia.....	10,213,779	12,505,922	10,783,631	11,681,995	11,427,491	10,411,202
New Brunswick.....	4,798,589	5,325,478	4,406,673	5,001,641	5,935,635	4,853,575
Quebec.....	3,044,919	3,110,964	2,736,450	2,996,614	2,933,339	2,502,998
Ontario.....	3,436,412	3,152,193	3,670,229	4,030,753	3,919,144	3,294,629
Manitoba.....	1,466,939	2,328,803	2,039,738	2,240,314	2,745,205	1,811,962
Saskatchewan.....	494,882	444,288	503,609	563,533	572,871	234,501
Alberta.....	458,504	749,076	712,469	725,050	732,214	421,258
British Columbia.....	22,414,618	27,367,109	22,890,913	26,562,727	23,930,692	23,103,302
Yukon.....	15,370	17,866	12,090	51,665	24,805	29,510
Totals.....	47,942,131	56,360,633	49,123,609	55,050,973	53,518,521	47,804,216

4.—Quantities¹ and Values² of the Chief Commercial Fishes, calendar years 1926-30.

Kind of Fish.	1926.	1927.	1928.	1929.	1930.	Increase or Decrease 1930 Compared with 1929.
Salmon..... cwt.	2,180,470	1,541,447	2,286,151	1,550,780	2,362,529	+ 811,748
\$	19,607,082	15,065,063	17,867,053	15,008,825	17,731,891	+ 2,723,066
Lobsters..... cwt.	339,583	316,831	332,437	372,820	407,265	+ 34,445
\$	5,883,672	5,426,176	5,183,988	5,696,542	5,214,643	- 481,899
Cod..... cwt.	2,733,864	1,978,803	2,150,078	1,979,440	1,662,421	- 317,019
\$	6,995,283	4,881,980	6,285,777	5,394,636	4,288,813	- 1,105,823
Halibut..... cwt.	339,918	299,854	329,923	335,824	282,605	- 53,219
\$	4,935,472	3,945,312	3,812,321	4,832,296	2,871,455	- 1,960,841
Herring..... cwt.	2,423,457	2,724,113	2,396,054	2,317,806	2,190,776	- 127,030
\$	3,238,919	3,358,098	3,104,911	3,186,669	2,623,174	- 563,495
Haddock..... cwt.	496,802	421,709	481,708	545,400	486,344	- 59,056
\$	1,754,846	1,483,844	1,733,781	1,951,642	1,851,724	- 99,918
Whitefish..... cwt.	190,644	185,664	180,695	196,386	169,747	- 26,639
\$	2,167,865	2,192,738	2,192,567	2,453,703	1,818,941	- 634,762
Pilchards..... cwt.	969,958	1,368,582	1,610,252	1,726,851	1,501,404	- 225,447
\$	1,256,721	1,838,867	2,563,137	2,199,834	1,589,609	- 610,225
Sardines..... brl.	173,166	174,695	285,990	249,194	129,459	- 119,735
\$	1,175,268	1,046,575	1,291,722	1,626,564	1,074,487	- 552,277
Trout..... cwt.	78,710	92,007	91,694	90,855	69,809	- 21,045
\$	1,051,196	1,397,294	1,347,779	1,324,779	1,031,979	- 292,796
Pickereel or doré..... cwt.	126,086	140,019	142,610	128,500	103,146	- 25,354
\$	1,385,856	1,347,589	1,616,442	1,453,847	939,762	- 514,085
Smelts..... cwt.	92,311	82,762	91,877	83,984	66,121	- 17,863
\$	1,174,185	1,117,330	1,241,452	1,190,908	853,034	- 337,874
Mackerel..... cwt.	115,487	158,797	123,768	152,756	178,464	+ 25,708
\$	443,155	582,705	528,267	536,021	598,019	+ 61,998
Tullibee..... cwt.	101,525	121,764	104,145	97,669	62,041	- 35,628
\$	645,945	633,150	612,931	687,731	461,676	- 226,055
Hake and cusk..... cwt.	151,051	177,370	253,244	339,217	294,376	- 44,841
\$	203,502	232,404	368,237	517,311	431,566	- 85,745
Blue pickereel..... cwt.	30,385	31,173	21,496	25,831	59,284	+ 33,453
\$	182,310	187,038	257,952	333,220	420,917	+ 87,697
Perch..... cwt.	30,498	34,573	53,176	67,055	43,762	- 23,293
\$	230,155	272,687	763,315	616,722	346,649	- 270,073
Ling cod ³ cwt.	-	49,916	50,772	48,489	49,591	+ 1,102
\$	-	401,259	366,101	415,776	333,564	- 81,821
Clams and quahaugs brl.	54,230	57,712	63,320	67,739	64,709	- 3,030
\$	268,887	274,287	322,874	346,772	319,469	- 27,303
Pike..... cwt.	72,520	70,473	62,701	82,546	56,464	- 26,082
\$	407,181	356,992	362,922	409,970	228,905	- 181,065
Swordfish..... cwt.	12,936	7,299	8,088	6,336	11,933	+ 5,597
\$	207,248	120,692	132,345	98,241	214,806	+ 116,565
Oysters..... brl.	22,255	21,650	21,493	24,959	23,942	- 1,017
\$	209,378	197,781	214,180	226,876	205,019	- 21,857
Eels..... cwt.	24,466	15,926	25,661	14,539	16,388	+ 1,849
\$	231,559	139,932	227,751	133,542	147,114	+ 13,572
Black cod..... cwt.	10,358	16,430	13,388	15,308	16,517	+ 1,209
\$	89,371	123,421	101,452	118,362	120,583	+ 2,221
Alewives..... cwt.	72,237	54,775	36,252	67,968	71,539	+ 3,571
\$	149,619	86,608	57,729	123,508	112,451	- 11,057
Sturgeon..... cwt.	5,198	4,788	4,866	5,143	4,977	- 166
\$	159,438	143,720	141,009	132,530	112,622	- 19,908

¹Quantities caught.²Values marketed.³Included with cod prior to 1927.

Operations in 1930.—Detailed Record of Production.—The total value of the products of the Canadian fishing industry in the calendar year 1930 was \$47,804,216, as compared with \$53,518,521 in 1929, \$55,050,973 in 1928, \$49,123,609 in 1927, \$56,360,633 in 1926, \$47,942,131 in 1925, \$41,534,235 in 1924 and \$42,-

565,545 in 1923. In Tables 5 and 6 will be found a statement for the whole of Canada of each fish and fish product marketed in 1930, with comparative figures for the preceding year—Table 5 dealing with sea fish and Table 6 with products of the inland fisheries. In Table 7 an analysis is made of the change in the value of each product from the preceding year due to variations in price and quantity respectively. On the whole, prices were lower in 1930. In Tables 8 and 9 the numbers of the fish-canning and curing establishments are shown, together with the materials used and values of the products.

5.—Quantities and Values of Sea Fish and Products Marketed, calendar years 1929 and 1930.

Kind of Fish or Product.	1929.		1930.	
	Quantity.	Value.	Quantity.	Value.
Cod, used fresh.....	cwt.	\$		\$
" fresh filets.....	"	401,964	112,866	434,553
" green-salted.....	"	16,187	193,335	315,701
" smoked filets.....	"	138,929	605,292	599,122
" smoked.....	"	46,565	599,231	395,701
" dried.....	"	392	3,166	—
" boneless.....	"	424,087	3,057,839	2,116,889
" canned.....	cases	31,766	339,766	252,524
" -liver oil, medicinal.....	gal.	3,992	33,787	28,394
" oil.....	"	91,022	83,167	65,046
Haddock, used fresh.....	cwt.	169,714	77,089	80,883
" fresh filets.....	"	147,761	572,743	575,831
" canned.....	cases	53,739	656,061	743,024
" smoked.....	cwt.	11,996	89,672	95,014
" smoked filets.....	"	38,033	332,772	293,282
" green-salted.....	"	10,400	132,119	48,161
" dried.....	"	17,210	52,997	26,116
" boneless.....	"	24,769	108,602	55,180
Hake and cusk, used fresh.....	"	735	6,676	14,236
" fresh filets.....	"	9,707	15,410	14,284
" green-salted.....	"	3,498	30,698	76,109
" canned.....	cases	62,661	133,880	86,556
" smoked filets.....	cwt.	9,156	88,776	6,562
" dried.....	"	53,413	234,732	83,341
" boneless.....	"	1,809	13,815	151,033
Pollock, used fresh.....	"	2,881	7,265	13,681
" fresh filets.....	"	97	1,170	16,844
" boneless.....	"	—	—	—
" green-salted.....	"	4,823	12,280	14
" dried.....	"	13,395	64,252	15,588
Whiting, used fresh.....	"	12	69	49,093
Catfish, fresh.....	"	781	2,411	211
" fresh filets.....	"	—	—	4,571
Halibut, used fresh.....	"	334,868	4,825,560	4
" smoked.....	"	412	3,890	32
" canned.....	cases	301	2,846	2,869,961
Flounders, brill, plaice, used fresh.....	cwt.	9,951	44,980	6
" fresh filets.....	"	—	—	135
Skate, used fresh.....	"	2,926	9,810	138
Soles, used fresh.....	"	15,540	80,894	48,088
" fresh filets.....	"	801	13,678	11
Herring, used fresh.....	"	185,397	290,821	8,870
" boneless.....	"	1,380	12,504	19,069
" canned.....	cases	2,207	8,853	—
" smoked.....	cwt.	106,948	447,762	365,456
" dry-salted.....	"	923,848	1,248,832	688
" pickled.....	brl.	37,597	232,779	2,740
" used as bait.....	"	203,476	440,266	74,489
" fertilizer.....	"	82,541	87,045	805,973
" oil.....	gal.	100,284	32,088	20,846
" meal.....	ton	1,138	53,195	183,915
" scales.....	cwt.	2,236	7,820	102,792
Mackerel, used fresh.....	"	44,913	181,514	98,038
" canned.....	cases	455	2,108	2,899
" smoked.....	cwt.	24	240	114,449
" pickled.....	brl.	36,699	352,111	182
" used as bait.....	"	15	53	447
Sardines, canned.....	cases	329,204	1,319,584	35,809
" sold fresh and salted.....	brl.	177,068	307,180	162,699
Pilchards, used fresh.....	cwt.	6	18	469
" smoked.....	"	20	140	131
" canned.....	cases	98,821	411,011	47,354
" used as bait.....	brl.	1,538	3,634	432,088
				—
				979,299
				95,188
				164
				—
				220,468
				2,415

**5.—Quantities and Values of Sea Fish and Products Marketed, calendar years
1929 and 1930—concluded.**

Kind of Fish or Product.		1929.		1930.	
		Quantity.	Value.	Quantity.	Value.
Pilchards, oil.....	gal.	2,856,579	\$ 1,128,164	3,204,058	\$ 678,115
" meal.....	ton	15,826	656,867	13,934	688,457
Alewives, used fresh.....	cwt.	14,428	30,594	15,130	24,673
" fertilizer.....	brl.	—	—	1,875	937
" salted.....	—	17,672	85,869	14,593	71,534
" smoked.....	cwt.	1,303	4,950	1,165	4,280
" used as bait.....	brl.	230	525	6,011	9,738
Bass, used fresh.....	cwt.	179	3,022	119	2,083
Perch, used fresh.....	"	2,228	21,811	1,733	15,576
Salmon, used fresh.....	"	239,745	2,465,334	310,352	2,951,304
" canned.....	cases	1,399,541	11,625,831	2,223,469	13,924,087
" smoked.....	cwt.	464	6,725	1,383	20,253
" dry-salted.....	"	77,362	355,740	116,223	292,782
" mild cured.....	"	22,246	511,590	25,095	463,391
" pickled.....	"	750	8,371	2,462	19,008
" used as bait.....	"	542	2,309	729	2,837
" roe.....	"	70	210	19,333	24,040
Shad, used fresh.....	cwt.	6,329	50,933	3,909	35,351
" salted.....	brl.	20	500	22	550
Smelts, used fresh.....	cwt.	75,330	1,122,897	58,944	796,700
Sturgeon, used fresh.....	"	334	7,445	526	7,368
Trout, used fresh.....	"	198	3,917	139	2,914
Black cod, used fresh.....	"	5,911	44,675	13,414	86,705
" dried.....	"	—	—	156	2,956
" green-salted.....	"	22	286	51	948
" smoked.....	"	4,677	73,401	1,584	29,979
Ling cod, used fresh.....	"	48,351	414,916	48,591	333,564
" smoked.....	"	69	860	—	—
Red cod, used fresh.....	"	5,210	28,821	4,248	24,577
" smoked.....	"	7	63	—	—
Albacore, used fresh.....	"	2,058	27,089	2,666	16,761
Caplin, used fresh.....	brl.	2,429	4,600	3,639	9,014
Eels, used fresh.....	cwt.	1,882	18,186	2,474	23,235
Octopus, used fresh.....	"	283	2,264	355	2,569
Oulachons, used fresh.....	"	370	1,833	899	4,214
Squid, used as bait.....	brl.	5,297	26,258	6,572	31,374
Swordfish, used fresh.....	cwt.	6,336	98,241	11,933	214,806
Tom cod, used fresh.....	"	28,107	100,993	15,253	52,219
Mixed fish, used fresh.....	"	8,257	40,874	5,919	29,359
Clams and quahaugs, used fresh.....	brl.	13,345	42,222	19,677	57,111
" canned.....	cases	54,289	304,550	44,708	262,358
Abalone, canned.....	—	—	—	350	3,500
Cockles, used fresh.....	cwt.	350	936	—	—
Crabs, used fresh.....	"	5,571	30,193	4,539	26,276
" canned.....	cases	671	15,421	295	3,141
Lobsters, in shell.....	cwt.	110,374	2,397,383	125,136	2,283,808
" meat.....	"	915	69,233	392	26,370
" canned.....	cases	127,516	3,179,022	139,109	2,873,796
" tomalley.....	"	4,516	50,904	3,261	30,669
Oysters, used fresh.....	brl.	24,959	226,876	23,942	205,019
Scallops, shelled.....	gal.	34,532	113,163	36,707	93,699
" canned.....	cases	422	3,798	195	1,823
Shrimps, used fresh.....	cwt.	1,293	26,579	1,578	20,426
Winkles, used fresh.....	"	276	744	578	1,105
Dulse, dried.....	"	1,124	10,620	765	10,306
Tongues and sounds, pickled or dried.....	"	1,514	8,316	1,555	5,838
Seal skins, fur.....	No.	3,347	33,272	2,291	13,746
" hair.....	"	23,866	56,222	10,544	18,190
Porpoise skins.....	"	26	104	9	76
Whalebone meal.....	ton	416	13,728	273	6,775
Whale fertilizer.....	"	779	45,635	581	29,050
Seal oil.....	gal.	43,176	34,989	22,377	9,786
Porpoise oil.....	"	800	400	300	152
Whale oil.....	"	712,597	327,686	525,533	192,168
Grayfish oil.....	"	—	—	114,558	22,229
Fish oil, n.e.s.....	"	532,144	161,324	99,127	34,342
Fish glue.....	"	7,653	4,592	27,953	36,443
Grayfish meal.....	ton	—	—	899	45,165
Fish meal, n.e.s.....	"	5,382	289,184	3,841	238,950
Fish fertilizer.....	"	2,671	58,020	390	14,120
Fish skins and bones.....	cwt.	17,438	27,502	31,574	30,784
Fish offal.....	ton	12,006	35,919	11,055	31,059
Other products.....	"	—	10,994	—	10,476
Totals.....		—	44,928,742	—	41,451,977

6.—Quantities and Values of Inland Fish Marketed, calendar years 1929 and 1930.

Kind of Fish or Product.		1929		1930.	
		Quantity.	Value.	Quantity.	Value.
Alewives, fresh.....	cwt.	235	\$ 655	257	\$ 579
" salted.....	brl.	105	915	104	712
Bass, fresh.....	cwt.	713	11,324	630	10,374
Carp, fresh.....	"	13,451	86,123	12,034	67,179
Catfish, fresh.....	"	8,765	74,580	8,954	79,829
Eels, fresh.....	"	12,657	115,356	13,914	123,879
Goldeyes, fresh.....	"	2,589	17,559	366	3,139
" smoked.....	"	5,137	174,234	3,266	94,428
Herring, fresh.....	"	54,562	324,704	65,113	287,435
Ling.....	"	-	-	652	391
Maskinonge, fresh.....	"	104	2,810	147	3,975
Mixed fish, fresh.....	"	44,428	177,908	41,652	151,273
Mullets, fresh.....	"	19,926	43,904	13,189	23,413
Perch, fresh.....	"	64,827	594,911	42,029	331,073
Pickarel or doré, fresh.....	"	128,500	1,453,847	103,146	939,762
Pickarel, blue, fresh.....	"	25,831	333,220	59,284	420,917
Pike, fresh.....	"	82,546	409,970	56,484	228,905
Salmon, fresh.....	"	1,455	32,715	1,830	34,236
Saugers, fresh.....	"	8,131	63,478	8,961	62,482
Shad, fresh.....	"	1,818	16,178	2,023	16,573
Smelts, fresh.....	"	8,654	68,011	7,177	56,334
Sturgeon, fresh.....	"	4,809	121,330	4,451	101,607
" caviar.....	lb.	3,755	3,755	3,647	3,647
Suckers.....	cwt.	-	-	5	15
Trout, fresh.....	cwt.	90,656	1,320,858	69,670	1,029,065
Tullibee, fresh.....	"	97,530	685,407	62,016	461,676
" smoked.....	"	87	2,324	15	400
Whitefish, fresh.....	"	196,386	2,453,703	169,747	1,818,941
Totals.....		-	8,589,779	-	6,352,239

7.—Yields of the Fisheries of Canada, Compared as to Quantity and Value, for 1929 and 1930. ("000" omitted.)

Kind of Fish or Product.	Actual Value, 1930.	Value at Prices of 1929.	Actual Value, 1929.	Increase (+) or Decrease (-)	Due to Higher (+) or Lower (-) Prices.	Due to Larger (+) or Smaller (-) Quantities.
Salmon.....	\$ 17,732	\$ 22,860	\$ 15,009	+ 2,723	- 5,128	+ 7,851
Lobsters.....	5,215	6,223	5,697	- 482	- 1,008	+ 526
Cod.....	4,289	4,530	5,395	- 1,106	- 241	+ 965
Halibut.....	2,871	4,063	4,832	- 1,961	- 1,192	+ 769
Herring.....	2,623	3,013	3,187	- 564	- 390	+ 174
Haddock.....	1,852	1,741	1,952	- 100	+ 111	- 211
Whitefish.....	1,819	2,120	2,454	- 635	- 301	+ 334
Pilchards.....	1,590	1,912	2,200	- 610	- 322	+ 288
Sardines.....	1,074	844	1,627	- 553	+ 230	- 783
Trout.....	1,032	1,018	1,325	- 293	+ 14	- 307
Pickarel or doré.....	940	1,166	1,454	- 514	- 226	+ 288
Smelts.....	853	936	1,191	- 338	- 83	+ 255
Mackerel.....	598	626	536	+ 62	- 28	+ 90
Tullibee.....	462	437	688	- 226	+ 25	- 251
Hake and cusk.....	432	449	517	- 85	- 17	+ 68
Pickarel, blue.....	421	765	333	+ 88	- 344	+ 432
Perch.....	347	403	617	- 270	- 56	+ 214
Ling cod.....	334	425	416	- 82	- 91	+ 9
Clams and quahaugs.....	319	331	347	- 28	- 12	+ 16
Pike.....	229	280	410	- 181	- 51	+ 130
Whales.....	228	304	387	- 159	- 76	+ 83
Swordfish.....	215	185	98	+ 117	+ 30	+ 87
Oysters.....	205	218	227	- 22	- 13	+ 9
Eels.....	147	151	134	+ 13	- 4	+ 17
Alewives.....	112	130	124	- 12	- 18	+ 6
Black cod.....	121	128	118	+ 3	- 7	+ 10
Sturgeon.....	112	128	133	- 21	- 16	+ 5
Goldeyes.....	98	100	192	- 94	- 2	+ 92
Soles.....	98	101	95	+ 3	- 3	+ 6
Scallops.....	96	122	117	- 21	- 26	+ 5
Catfish.....	84	88	77	+ 7	- 4	+ 11
Pollock.....	81	82	85	- 4	- 1	+ 3
Carp.....	67	77	86	- 19	- 10	+ 9
Tom cod.....	52	55	101	- 49	- 3	+ 46
Seals.....	42	63	124	- 82	- 21	+ 61
Other products of the fisheries.....	1,014	1,052	1,234	- 220	- 38	+ 182
Totals.....	47,804	57,126	53,519	- 5,715	- 9,322	+ 3,607
Increase or decrease.....	-	-	-	p.c. 10.7	p.c. 17.4	p.c. 6.7

8.—Number of Fish-Canning and Curing Establishments, by Provinces, 1929 and 1930.

Classification.	P.E.I.	N.S.	N.B.	Que.	B.C.	Total for Canada.
1929.	No.	No.	No.	No.	No.	No.
Lobster canneries.....	88	114	96	56	—	354
Salmon canneries.....	—	1	—	—	63	64
Clam canneries.....	7	7	8	—	1	23
Sardine and other fish canneries.....	—	4	4	—	—	8
Fish-curing establishments.....	5	107	43	37	50	242
Reduction plants.....	—	9	4	1	25	39
Totals.....	100	242	155	94	139	736
1930.						
Lobster canneries.....	85	106	98	44	—	333
Salmon canneries.....	—	1	—	7	60	68
Clam canneries.....	5	6	10	—	2	23
Sardine and other fish canneries.....	—	6	3	—	1	10
Fish-curing establishments.....	5	101	48	34	46	234
Reduction plants.....	—	8	3	1	19	31
Totals.....	95	228	162	86	128	699

9.—Values of Materials Used and of Products of Fish-Canning and Curing Establishments, 1926-30.

Material and Product.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$
Materials used—					
Fish.....	16,692,352	14,379,521	15,617,194	17,061,702	15,939,137
Salt.....	356,267	360,056	444,471	413,722	348,201
Containers.....	4,652,025	3,290,932	4,144,425	3,802,791	4,569,026
Other.....	333,485	334,337	372,677	218,644	225,125
Totals.....	22,034,129	18,364,846	20,578,767	21,496,859	21,081,489
Products—					
Fish marketed for consumption, fresh.....	7,348,820	7,123,490	8,275,669	9,057,253	7,839,557
Fish canned, cured or otherwise prepared.....	28,841,944	23,961,119	27,992,063	25,909,007	25,333,751
Totals.....	36,190,764	31,084,609	36,267,732	34,966,260	32,973,308

Capital and Employees.—In 1930 capital investments in the fisheries were as follows: (a) in vessels, boats, nets, weirs, traps, wharves, ice-houses, etc., used in the primary operations of capturing the fish, \$33,198,690, of which \$27,534,258 was invested in the sea fisheries and \$5,664,432 in the inland fisheries; (b) in fish-canning and curing establishments (land, buildings, machinery, supplies on hand, cash and operating accounts), \$30,827,607—grand total \$64,026,297. The number of employees engaged in the primary operations of fishing was 63,836 in 1930, and in canning and curing establishments, 15,722, a total of 79,558. The total salaries and wages bill in canneries and fish-curing establishments was \$5,326,463. Tables 10 and 11, herewith, show the items included in the above totals, with comparative figures for 1929, while Table 12 analyses the salaries, wages and earnings of the employees in canneries, etc.

10.—Numbers and Capital Values of Fishing Vessels, Boats, Nets, Traps, etc., Used in the Fisheries of Canada, 1929 and 1930.

Equipment.	1929.		1930.	
	Number.	Value.	Number.	Value.
Sea Fisheries—		\$		\$
Steam trawlers.....	10	640,000	8	470,000
Steam fishing vessels.....	12	216,500	8	156,000
Sailing and gasoline vessels.....	1,309	8,048,609	1,216	7,854,044
Boats (sail and row).....	15,985	593,427	14,571	539,415
Boats (gasoline).....	16,498	6,965,284	16,737	7,475,369
Carrying smacks and scows.....	405	570,254	642	875,945
Gill nets.....	72,273	1,740,885	67,279	984,138
Salmon drift nets.....	8,877	898,011	12,619	1,433,228
Salmon drag nets.....	14	4,450	19	10,875
Salmon trap nets.....	259	72,800	312	103,215
Trap nets, other.....	1,042	575,260	1,121	668,858
Dip nets.....	219	1,095	—	—
Smelt nets.....	18,581	664,130	18,482	627,629
Pound nets.....	76	15,200	73	14,600
Weirs.....	422	404,145	346	352,329
Weir seines.....	23	4,600	—	—
Salmon purse seines.....	485	865,035	399	767,775
Seines, other.....	3,225	656,810	3,470	422,255
Weir drivers.....	15	17,100	—	—
Tubs of trawl.....	21,655	351,724	20,859	306,672
Skates of gear ¹	—	—	2,461	54,636
Otter trawl.....	—	—	59	15,625
Hand lines.....	59,028	147,250	63,699	153,785
Crab traps.....	7,245	26,432	4,870	16,930
Bel traps.....	413	895	416	1,847
Lobster traps.....	1,618,779	2,125,283	1,593,584	2,116,828
Lobster pounds.....	58	58,540	77	63,640
Oyster rakes.....	1,543	6,025	1,449	5,341
Scallop drags.....	331	10,110	322	9,760
Quahaug rakes.....	289	680	279	653
Oyster plant and equipment.....	1	26,032	1	21,208
Fishing piers and wharves.....	1,836	732,235	1,793	811,655
Freezers and ice-houses.....	551	782,526	603	282,680
Small fish and smoke-houses.....	6,934	940,985	6,946	917,323
Total Values, Sea Fisheries.....	—	23,162,312	—	27,534,258
Inland Fisheries—				
Steam vessels or tugs.....	139	1,115,375	136	1,103,695
Boats (sail and row).....	3,853	167,501	3,722	151,770
Boats (gasoline).....	1,533	925,656	1,480	966,020
Scows.....	11	45,100	8	42,500
Gill nets.....	—	1,802,783	—	1,720,632
Seines.....	151	22,557	183	22,747
Pound nets.....	1,263	650,160	1,182	622,525
Hoop nets.....	932	31,565	887	28,767
Dip or roll nets.....	123	1,585	135	1,263
Lines.....	3,017	19,690	1,668	15,216
Weirs.....	1,432	118,696	1,169	122,269
Bel traps.....	90	240	80	200
Fish wheels.....	8	1,200	6	900
Spears.....	75	526	93	680
Fishing piers and wharves.....	463	236,015	483	229,275
Freezers and ice-houses.....	826	524,715	958	527,435
Small fish and smoke-houses.....	292	109,326	225	108,538
Total Values, Inland Fisheries.....	—	5,772,690	—	5,664,432
Fish-Canning and Curing Establishments²—				
Lobster canneries.....	354	1,265,183	333	1,257,185
Salmon canneries.....	64	15,103,888	68	17,927,102
Clam canneries.....	23	117,352	23	204,969
Sardine and other fish canneries.....	8	1,383,202	10	1,405,921
Fish-curing establishments.....	242	7,685,638	234	7,562,694
Reduction plants.....	39	3,089,179	31	2,469,736
Totals of Fish-Canning and Curing Establishments.....	730	28,644,442	699	30,827,607
Grand Totals, Capital Invested in Fisheries.....	—	62,579,444	—	64,026,297

¹Previous to 1930 included with tubs of trawl.²Comprises values of land, buildings and machinery, products and supplies on hand, and cash and operating accounts.

11.—Number of Persons Employed in the Fisheries of Canada, 1928-30.

Employed in—	Sea Fisheries.			Inland Fisheries.		
	1928.	1929.	1930.	1928.	1929.	1930.
	No.	No.	No.	No.	No.	No.
Steam trawlers.....	226	182	142	—	—	—
Vessels.....	7,567	7,070	6,745	767	727	65
Boats.....	38,061	40,101	40,508	8,166	7,576	7,51
Carrying smacks.....	536	540	649	21	30	2
Fishing, not in boats.....	2,972	2,821	2,837	4,469	5,036	4,76
Totals.....	49,362	50,714	50,881	13,423	13,369	12,955

Employed in—	Fish-Canning and Curing Establishments.					
	1929.			1930.		
	Male.	Female.	Total.	Male.	Female.	Total.
	No.	No.	No.	No.	No.	No.
Lobster canneries.....	2,596	3,274	5,870	2,450	3,159	5,609
Salmon canneries.....	3,521	2,296	5,817	3,340	2,504	5,84
Clam canneries.....	100	171	271	100	199	299
Sardine and other fish canneries.....	283	201	484	183	212	395
Fish-curing establishments.....	2,859	325	3,184	2,810	310	3,120
Reduction plants.....	717	24	741	430	25	455
Totals.....	10,076	6,291	16,367	9,313	6,409	15,722
Grand Totals, All Fisheries.....	74,159	6,291	80,450	73,149	6,409	79,558

12.—Employees and Salaries and Wages in Fish-Canning and Curing Establishments, 1920-30.

Year.	On Salaries.		On Wages.		Contract and Piece-Workers.		Totals.	
	No.	\$	No.	\$	No.	\$	No.	\$
1920.....	651	759,176	13,137	3,180,701	4,711	916,413	18,499	4,856,290
1921.....	487	551,330	10,534	2,023,040	3,083	399,016	14,104	2,973,386
1922.....	614	682,535	11,848	2,358,780	4,115	600,415	16,577	3,641,730
1923.....	585	581,101	11,265	2,443,971	3,597	644,842	15,447	3,769,914
1924.....	574	755,631	10,583	2,588,717	4,379	890,413	15,536	4,234,761
1925.....	632	806,418	10,687	3,166,045	4,953	998,704	16,272	4,971,167
1926.....	546	733,760	11,579	3,807,533	5,283	1,081,544	17,408	5,622,837
1927.....	639	871,211	11,343	3,769,791	4,715	732,949	16,697	5,373,951
1928.....	630	853,800	10,579	3,539,070	4,225	868,226	15,434	5,261,096
1929.....	660	951,669	11,122	3,668,802	4,585	791,384	16,367	5,411,855
1930.....	591	918,952	9,967	3,383,902	5,164	1,023,609	15,722	5,326,463

Trade.—For reasons already noted, the domestic consumption of fish is relatively small in Canada, and the trade depends largely upon foreign markets. Perhaps 60 p.c. of the annual catch is an average export. In the fiscal year 1931 fish worth \$12,953,060 went to the United States and \$5,051,110 to the United Kingdom. The most important single export is canned salmon (to Great Britain and European markets), followed closely by cod, dry-salted (to the West Indies, South America, etc.), and canned lobsters to Great Britain, the United States and France. For fresh fish, especially whitefish and lobsters, the United States is the chief market. Canadian imports of fish in 1931 amounted to \$3,295,098. A general review of the

import and export trade in fish for 30 years past is given in Table 13, while Table 14 gives a comparative record of exports by countries during 1930 and 1931. Table 15 shows the leading items of export for the calendar years 1928-30. For a complete analysis of imports and exports, as well as of production, see the annual report "Fisheries Statistics", issued by the Dominion Bureau of Statistics.

13.—Value of Exports and Imports of Fish and Fish Products, fiscal years 1902-31.

NOTE.—In this table "Exports" include seal skins and fish oils, and "Imports" include turtles, whale-bone, shells, mother of pearl, seal skins, fish oils and ambergris, in addition to fishery products as shown in Tables 12 and 13 of the External Trade section of this volume.

Year.	Exports, Fisheries, Domestic.	Imports of Fish for Home Consumption.		Year.	Exports, Fisheries, Domestic.	Imports of Fish for Home Consumption.	
		Dutiable.	Free.			Dutiable.	Free.
	\$	\$	\$		\$	\$	\$
1902.....	14,143,294	620,706	525,459	1917.....	24,889,253	1,347,511	1,128,768
1903.....	11,800,184	659,717	743,703	1918.....	32,602,151	1,039,585	1,884,041
1904.....	10,759,029	734,800	850,945	1919.....	37,137,072	1,054,848	2,128,970
1905.....	11,114,318	752,558	751,402	1920.....	42,227,996	2,605,379	1,446,493
1906.....	16,025,840	814,540	1,234,563	1921.....	33,615,119	2,416,152	1,876,303
1907.....	10,362,142	735,045	924,046	1922.....	29,578,392	2,172,850	996,763
1908.....	13,867,367	838,037	1,103,649	1923.....	27,816,935	2,066,300	899,531
1909.....	13,319,664	784,176	925,173	1924.....	30,925,769	1,878,336	648,696
1910.....	15,663,162	952,522	820,183	1925.....	33,967,009	2,064,222	997,059
1911.....	15,675,544	1,175,072	820,019	1926.....	37,487,517	1,949,269	641,240
1912.....	16,704,678	1,261,096	1,148,522	1927.....	36,365,454	2,347,890	909,188
1913.....	16,336,721	1,608,663	910,923	1928.....	35,660,287	2,595,591	1,181,067
1914.....	20,623,560	1,558,663	773,109	1929.....	37,962,929	2,956,182	1,218,386
1915.....	19,687,068	1,155,186	701,112	1930.....	37,185,185	3,020,020	1,100,296
1916.....	22,377,977	895,371	695,702	1931.....	29,691,978	2,340,576	954,522

¹ Nine months.

14.—Exports of the Fisheries, the Produce of Canada, by Principal Countries, in the fiscal years ended Mar. 31, 1930 and 1931.

Exports to—	1930.	1931.	Exports to—	1930.	1931.
British Empire.	\$	\$	Foreign Countries.	\$	\$
United Kingdom.....	4,107,761	5,051,110	Belgium.....	484,269	245,117
Africa, South, British.....	230,938	121,828	Brazil.....	385,146	184,863
Africa, West, British.....	112,600	55,033	Chile.....	142,982	110,548
Bermuda.....	59,415	59,396	China.....	1,089,703	581,271
British India.....	36,934	51,606	Cuba.....	720,126	521,044
Straits Settlements.....	51,763	15,737	Denmark.....	118,221	169,030
British Guiana.....	130,685	104,341	France.....	1,606,920	1,144,432
Barbados.....	142,562	99,774	Germany.....	632,390	575,904
Jamaica.....	1,123,462	803,344	Italy.....	1,605,337	943,669
Trinidad and Tobago.....	539,522	432,255	Japan.....	937,701	740,173
Hong Kong.....	503,108	355,117	Mexico.....	89,777	22,164
Newfoundland.....	143,935	64,300	Netherlands.....	214,612	222,321
Australia.....	2,327,417	1,052,628	Panama.....	75,099	59,088
Fiji.....	96,483	44,029	Portugal.....	92,495	44,214
New Zealand.....	633,457	324,605	San Domingo.....	105,384	131,281
			Sweden.....	309,996	363,714
			United States.....	14,928,048	12,953,060
			Porto Rico.....	830,708	609,975
Totals, British Empire....	10,534,480 ¹	8,817,374 ¹	Totals, Foreign Countries.	25,162,547 ¹	20,077,609 ¹
			Grand Totals, Exports..	37,185,185 ²	29,691,978 ²

¹ Includes other countries. ² Grand totals include exports of seal skins and fish oil. These amounted to \$1,488,158 in 1930 and \$796,995 in 1931, not separated by countries.

15.—Exports of the Fisheries of Canada, by Quantity and Value, calendar years 1928-30

Classification.	1928.		1929.		1930.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Fish—		\$		\$		\$
Alewives, salted.....cwt.	29,224	81,684	30,706	94,875	33,830	101,524
Bait fish.....ton	2,126	45,857	1,714	59,007	1,484	45,697
Clams, canned.....cwt.	13,030	182,662	12,994	204,753	9,024	137,317
Clams, fresh.....cwt.	13,317	23,858	11,522	24,067	16,842	26,561
Codfish, boneless, canned or preserved, n.o.p.....cwt.	22,277	230,502	30,909	315,975	20,767	205,749
Codfish, dried.....cwt.	594,384	4,953,119	514,998	4,748,472	448,399	3,774,353
Codfish, fresh and frozen.....cwt.	14,986	107,878	12,113	107,253	21,278	225,206
Codfish, green-salted (pickled).....cwt.	81,933	380,016	79,409	369,830	113,424	497,432
Codfish, smoked.....cwt.	23,169	284,297	12,550	168,423	11,450	148,909
Eels, fresh and frozen.....cwt.	15,971	210,289	10,173	136,987	10,954	133,657
Haddock, canned.....cwt.	447	6,333	207	2,837	203	2,468
Haddock, dried.....cwt.	28,378	180,764	26,223	180,672	23,672	151,011
Haddock, fresh and frozen.....cwt.	6,056	44,417	4,649	26,095	13,961	163,708
Haddock, smoked.....cwt.	12,858	114,626	15,476	160,005	13,928	157,361
Halibut, fresh and frozen.....cwt.	43,685	508,293	48,514	667,543	35,517	464,870
Herrings, lake, fresh and frozen.....cwt.	20,003	362,661	17,113	195,054	22,974	249,117
Herrings, sea, canned.....cwt.	27	206	9	90	2	20
Herrings, sea, dry-salted.....cwt.	1,169,805	2,023,664	1,090,267	1,948,725	925,270	1,567,974
Herrings, sea, fresh and frozen.....cwt.	365,407	272,077	291,446	234,979	162,721	139,463
Herrings, sea, pickled.....cwt.	61,865	170,251	46,351	177,906	52,678	191,683
Herrings, sea, smoked.....cwt.	73,416	292,390	80,849	328,905	69,054	252,938
Lobsters, canned.....cwt.	48,115	3,107,292	50,385	3,113,631	54,785	3,234,861
Lobsters, fresh.....cwt.	50,501	1,514,719	80,195	2,266,008	96,330	2,279,258
Mackerel, fresh and frozen.....cwt.	19,697	148,153	18,076	124,111	13,590	75,241
Mackerel, pickled.....cwt.	66,167	384,278	73,033	462,424	86,454	502,111
Oysters, fresh.....cwt.	3,336	24,866	6,383	60,088	4,710	40,952
Pilchards, canned.....cwt.	24,178	221,557	18,361	173,621	10,931	107,049
Pollock, hake and cusk, boneless, canned or preserved, n.o.p.....cwt.	301	2,375	254	1,716	91	660
Pollock, hake and cusk, dried.....cwt.	43,738	264,826	61,223	382,269	52,682	328,786
Pollock, hake and cusk, fresh and frozen.....cwt.	1,084	4,075	967	4,314	910	2,662
Pollock, hake and cusk, green-salted.....cwt.	30,080	61,298	24,325	50,498	15,482	35,405
Pollock, hake and cusk, smoked.....cwt.	225	2,925	100	1,000	138	1,721
Salmon, canned.....cwt.	643,399	9,227,442	605,053	8,865,089	457,279	6,479,255
Salmon, dry salted (chum).....cwt.	209,060	756,957	89,963	315,341	144,729	395,371
Salmon, fresh and frozen.....cwt.	83,653	1,035,711	69,407	1,119,617	94,328	1,514,429
Salmon, pickled.....cwt.	23,974	535,903	22,817	536,691	22,040	426,316
Salmon, smoked.....cwt.	794	10,356	957	11,817	174	3,668
Salmon trout or lake trout, fresh and frozen.....cwt.	46,955	554,562	44,984	523,319	36,484	402,086
Sardines (little fish in oil).....cwt.	55,036	536,833	57,556	578,015	42,360	412,786
Shell fish, other, fresh.....cwt.	5,655	93,940	3,591	56,394	3,366	59,918
Smelts, fresh and frozen.....cwt.	81,161	1,165,640	67,583	989,916	53,292	816,121
Sturgeon, fresh and frozen.....cwt.	2,295	101,663	1,871	65,522	1,142	41,507
Swordfish, fresh and frozen.....cwt.	7,310	121,440	5,981	78,093	10,350	162,552
Tongues and sounds.....cwt.	380	2,898	887	9,085	900	4,010
Tullibee, fresh and frozen.....cwt.	99,662	620,055	87,859	723,022	63,570	514,842
Whale meat, canned or preserved, n.o.p.....cwt.	-	-	523	2,008	417	1,903
Whitefish, fresh and frozen.....cwt.	109,540	1,401,762	114,927	1,518,658	100,709	1,215,118
Other fresh water fish, fresh and frozen.....cwt.	309,825	2,563,776	317,365	2,748,526	283,971	2,286,320
Other fresh water fish, salted, dried, smoked or pickled.....cwt.	51	493	1,035	4,324	62	522
Other sea fish, fresh and frozen.....cwt.	6,043	47,535	6,547	55,086	7,064	68,107
Other sea fish, salted, dried, smoked or pickled.....cwt.	4,249	16,833	5,311	37,105	7,625	46,011
Other sea fish, canned or preserved, n.o.p.....cwt.	106	1,877	120	1,634	60	1,105
Fishery Products—						
Fish meal.....cwt.	337,013 ¹	925,600 ¹	324,451	826,260	322,666	884,430
Fish offal or refuse.....cwt.	33,499	81,497	29,395	64,772	18,590	36,596
Oils—						
Cod-liver oil.....gal.	266,348	216,709	169,457	129,911	172,423	124,260
Seal oil.....gal.	1,553	728	37,603	19,920	3,596	1,761
Whale oil.....gal.	381,979	160,091	541,585	220,089	309,527	112,675
Other fish oil.....gal.	3,434,013	1,359,994	2,934,461	1,098,669	2,591,177	555,247
Seal skins, undressed.....No.	8,517	70,487	24,146	108,532	6,924	24,993
Other articles of the fisheries.....	-	273,255	-	45,945	-	31,753
Totals, Fish and Fishery Products...	-	38,096,245¹	-	37,546,393¹	-	31,869,350¹

¹ Nine months figures—April 1 to March 31, 1928.

CHAPTER XII.—MINES AND MINERALS.¹

An article on the general geology of Canada, referring to the chief mineral-bearing areas of the Dominion, will be found at pp. 18-28 of the present edition of the Year Book. This is followed by an account of the chief discoveries and investigations of mineral-bearing ores in 1930, at pp. 29-38; similar articles for earlier years were published in previous editions. These articles furnish references to more detailed sources of information in the publications of the Dominion and Provincial Governments and in the scientific journals.

The Mines and Minerals chapter of the Year Book is divided into six sections: (1) a sketch of the administration of mineral lands and mining laws, (2) a summary of general production, (3) the industrial statistics of the mining industries, (4) production of the metallic minerals, (5) production of the non-metallic minerals, (6) production of clay products and structural materials.

For more detailed information on the mineral production of Canada the reader is referred to the various reports issued by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics, which are here briefly described:—

Statistics of Mines and Minerals.—The compilation and publication of statistics of the production of mines and minerals in the Dominion is carried out by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics, which works in close co-operation with the Mines Departments of the various Provincial Governments, collecting the data in collaboration with these Departments. Questionnaires sent out to the mining producers are designed to meet the requirements of both the Dominion and the provincial authorities, thus eliminating duplication of labour.

Annual and Monthly Statistical Reports.—Detailed statistics of the mineral production of the Dominion are published annually in a comprehensive report of over 300 pages which includes tables of Dominion-wide production, capital invested in the mining industry, number of employees, salaries and wages, fuel and machinery used in mining, together with tables showing imports and exports of minerals and their products, and a résumé of general mining conditions. The latest of these reports available for distribution at the time of writing covers the calendar year 1930 and may be obtained from the Dominion Statistician on request.

A summarized report on mineral production giving fairly detailed preliminary figures for the preceding calendar year is issued about March 15 of each year, and the salient points are reviewed at the Annual Meeting of the Canadian Institute of Mining and Metallurgy which is held the first week in April. (The 1931 report is now available.) Further, a bulletin issued each year at the beginning of January gives the most accurate estimate then possible for the mineral production of the year just closed. In addition to the above, annual bulletins giving the detailed production of each mineral are issued as soon as the final figures become available in each case.

¹ Revised by W. H. Losee, B.Sc., Chief of the Mining, Metallurgical and Chemical Branch, Dominion Bureau of Statistics. A complete list of the publications of this Branch appears in Chapter XXIX, Section 1, under "Production".

Monthly statistics of the physical production of 16 of the leading minerals of Canada have been compiled for the past three years and are published separately in monthly bulletins. These figures indicate the current trend of activity in mining operations.

Coal Statistics.—In a country like Canada coal is perhaps the most important of all minerals, from the point of view of the general public. This special position is recognized in the statistics by the publication of an annual report on Coal Statistics for Canada, giving complete details of coal-mining operations in the various coal-producing provinces and showing the imports and exports of coal by kinds and by ports of entry and exit, together with industrial statistics in relation to coal mining. Monthly bulletins and quarterly reports on coal and coke statistics are also issued, giving coal and coke production and imports and exports, the quarterly printed reports showing in detailed form production of coal by areas, and imports and exports by ports of entry and exit.

Section 1.—Mineral Lands Administration and Mining Laws.

The mineral lands of Canada, like other Crown lands, are administered by either the Dominion or the Provincial Governments. The Dominion Government administers the mineral lands of the Yukon and Northwest Territories as well as those in all Indian Reserves, and in National Parks in the Prairie Provinces and British Columbia. Since the transfer of the natural resources to the Prairie Provinces in 1930, all other mineral lands lying within the boundaries of the several provinces are administered by the respective Provincial Governments.

Subsection 1.—Dominion Mining Laws and Regulations.

Dominion lands to which these regulations apply are those administered by the Department of the Interior, within the Yukon Territory and the Northwest Territories.

Titles issued for Dominion lands, the property of the Dominion Government in the territories of Canada, reserve to the Crown the mines and minerals which may be found on or under such lands, together with the right of operation.

Placer.—Claims 500 feet long and from 1,000 to 2,000 feet wide, according to location, may be staked out and acquired by any person 18 years of age or over. Claims to be marked by two legal posts, one at each end, and the line joining them marked. Creek claims are staked along the base line of the creek, and extend 1,000 feet on each side. River claims are 500 feet on one side of the river and extend back 1,000 feet. Other claims are staked parallel to the creek or river on which they front, 500 feet long by 1,000 feet. Expenditure in development of each claim to be incurred and proved each year, \$200 in the Yukon Territory and \$100 elsewhere. Royalty $2\frac{1}{2}$ p.c.

Quartz.—"Mineral" under this heading means all deposits of metals and other useful minerals other than placer deposits, peat, coal, petroleum, natural gas, bitumen and oil shales.

Under the new regulations, effective April 1, 1929, any prospector or locator of a mineral claim, whether an individual, mining partnership or a company, must first be the holder of a miner's licence, the fee for which is \$5 for an individual,

from \$5 to \$20 for mining partnerships, and larger amounts proportionate to their capitalization for mining companies. A licensee may stake out 6 claims for himself and 12 more for two other licensees, not exceeding 18 in all in any one licence year in any mining division. A mineral claim shall be rectangular and marked by a post at each corner—maximum area 51.65 acres, being 1,500 feet square. Entry is granted by mining recorder, fee \$5 for a claim located by a licensee on his own licence, and \$10 if located on behalf of another licensee. Grant is renewable from year to year, subject to representation work being done on the location each year. All work done is subject to inspection. When the prescribed representation work has been done and confirmed, discovery of mineral in place shown to have been made, a survey made by a Dominion land surveyor at grantee's expense and certain other requirements complied with, a lease is issued for a term of 21 years, renewable the rental for the full term being \$50. The cost of the survey, reckoned as 40 days work, may be counted as work done on the claim. A maximum of nine claims may be grouped for purposes of representation work. When the profits of a mine exceed \$10,000 in any calendar year, there is a royalty of from 3 to 6 p.c. or higher, proportionate to the profits made. Miner's licences are not required in the Yukon Territory under the Yukon Quartz Mining Act but the general provisions of the Act are similar to those of the Quartz Mining Regulations above.

In addition to these Quartz and Placer Mining Regulations applicable to the Northwest Territories and the Yukon Quartz and Placer Mining Acts, the following mining regulations are in force:—

Yukon Territory.—Dredging Regulations; Petroleum and Natural Gas Regulations.

Yukon and Northwest Territories.—Alkali Mining Regulations; Carbon-Black Regulations; Coal Mining Regulations; Potash Regulations and Domestic Coal Permits.

Northwest Territories.—Dredging Regulations; Oil and Gas Regulations; Quarrying Regulations and Permits to remove sand, stone and gravel from beds of rivers.

For copies of any of the regulations above referred to, application may be made to the Dominion Lands Administration, Interior Department, Ottawa.

Subsection 2.—Provincial Mining Laws and Regulations.

Nova Scotia.—All minerals in Nova Scotia, except limestone, gypsum and building materials, are the property of the Crown in the right of the province of Nova Scotia. They are dealt with under the provisions of the Mines Act (c. 22, R.S.N.S., 1923) and amending Acts of 1927 (c. 17) and 1929 (c. 22), and are administered by the Minister of Public Works and Mines, at whose office in the Parliament Buildings, Halifax, all records of mining titles are kept.

The chief mineral product of Nova Scotia is coal, which is subjected to a royalty of 12½ cents per long ton. Coal used in mining operations, or used for domestic purposes by workmen employed about the mine, is exempted from royalty.

Licences to search for mineral, good for a year, are issued at a nominal fee. More permanent holding is obtained by lease, which, in the case of minerals other than gold and silver, is granted for 20 years (subject to payment of an annual

rental and the performance of work), the lease carrying the right to three successive renewals of 20 years each. A lease for gold and silver is given for 40 years, subject to a small annual rental and performance of work.

Other important minerals of Nova Scotia are gold, salt, lead, zinc, copper, diatomaceous earth, manganese, antimony, gypsum and limestone.

Full information concerning minerals and mining laws may be obtained by writing the Department of Public Works and Mines at the above address.

New Brunswick.—In grants of Crown land with few exceptions since about the year 1805, all mines and minerals are reserved to the Crown and regarded as property separate from the soil. Prior to this time, most of the grants reserved only gold, silver, copper, lead and coal. Royalties levied are 10 cents per long ton on coal and 5 p.c. on petroleum and natural gas. Prospectors must obtain a licence which costs \$10 and is good for the calendar year. It entitles the prospector to stake up to 10 claims of 40 acres each. Claims must be registered within 30 days and 25 days' work done on each claim within the year, after which a mining licence, renewable annually on the payment of \$10 per claim, will be granted. Administration is carried on subject to the provisions of the Mining Act (c. 35, R.S.N.B., 1927). For full information apply to the Department of Lands and Mines, Fredericton, N.B.

Quebec.—The mining lands of Quebec are administered by the Minister of Mines, subject to the provisions of the Quebec Mining Act (c. 80, R.S.Q., 1925) and amendments.

In townships the Crown retains full mining rights on lands granted subsequently to July 24, 1880, and, in the case of gold and silver, on lands granted previous to that date. All mining rights belong to the Crown in most of the seigneuries.

Mining lands up to 200 acres in extent can be acquired by staking the ground as prescribed by the Mining Act. Claims must be recorded and 25 days' work per claim done within 12 months, when a mining licence is granted upon payment of 50 cents an acre and a recording fee of \$10. The licence is renewable annually. When a mineral occurrence of importance has been found, the mining rights can be purchased as a mining concession for \$5 per acre for superior minerals and \$3 per acre for inferior minerals.

Mining operators must make annual returns to the Minister. Taxes are payable on annual profits at rates graduated up from 3 p.c. A mining inspector is appointed in each mining division for the administration of the mining laws and regulations.

Information and statistics on mining operations and geological explorations are to be found in the Annual Report of the Quebec Bureau of Mines.

Ontario.—Ontario owns and administers for mining purposes, through her Department of Mines, all the Crown lands within her boundaries except Indian lands, which are under the Dominion Government. Mining lands are subject to the provisions of the Mining Act (c. 45, R.S.O., 1927). Title is a grant in fee simple, except in provincial forests, where the lands are leased. A resident mining recorder is appointed for each mining division created in the mineral areas. There is a tax on mining lands in unorganized territory of 5c. per acre per annum. Other taxation is on the net profits, the rate being 3 p.c. up to \$1,000,000; 5 p.c. from \$1,000,000 to \$5,000,000 and 6 p.c. on the excess above \$5,000,000. The first

\$10,000 of profit is exempt. There is no apex law, all claim boundaries extending vertically downwards. Disputes are settled by the Recorder, or, on appeal, by the judge of the Mining Court of Ontario.

A miner's licence is necessary to stake out or acquire Crown lands for mining purposes, fee \$5 per year for an individual; for companies, \$100 on each million dollars capital. The holder may stake out for himself three claims in any and every mining division, and six additional for other licence holders, but not more than three for any such other licensee. A mining claim in unsurveyed territory is a square of 20 chains to a side (40 acres) with lines N.-S. and E.-W. astronomically. Where land is subdivided into lots a claim may be an eighth, a quarter or a half lot, *i.e.*, up to 50 acres.

There are special provisions regarding petroleum, natural gas, coal and salt on the James Bay slope, where these substances may be searched for under authority of a boring permit. A total of 1,920 acres may be taken up by an individual in blocks of 640 acres. Certain areas have been withdrawn from staking.

Full information concerning the mineral resources of the province and the mining laws may be obtained by writing the Department of Mines, Parliament Buildings, Toronto, Ontario.

Manitoba.—With the transfer of the natural resources to the province of Manitoba on July 15, 1930, control of most of the public lands passed to the Department of Mines and Natural Resources of the Manitoba Government.

The Mines Act (c. 27, 1930) and regulations thereunder govern the administration and leasing of:—

1. Mineral claims—gold, silver, copper, zinc, etc.
2. Boring permits—coal, natural gas, oil shale, petroleum and salt.
3. Quarrying locations—granite, limestone, marble, slate or any building stone, gypsum, gravel, marl, peat and sand.

A miner's licence is necessary to stake out Crown lands for mining purposes; fee is \$5 for an individual and larger amounts for mining partnerships and mining companies. A licensee may stake out for himself three mineral claims and six more for two other licensees, not exceeding nine in all in any mining division. He may also obtain one boring permit or one quarrying location.

A mineral claim in unsurveyed territory is a square of 1,500 feet (51.65 acres) with lines N.-S. and E.-W. astronomically. A boring permit allows 640 acres to be taken up and a quarrying location may cover an area up to 40 acres.

The fee is \$5 for recording a claim located by the licensee and \$10 if recorded on behalf of another licensee. After recording, 25 days' work per claim must be done per year for 5 years. A maximum of nine claims may be grouped for the purpose of this work. When 125 days' work has been done, and certain other requirements complied with, a lease is granted. The cost of the survey may be reckoned as one year's work done on the claim.

A boring permit good for one year is necessary to search for oil, coal, gas or salt. If mineral is discovered a 21-year lease may be obtained subject to annual rental and certain annual work.

Lands containing granite, limestone, marble, slate or any building stone, together with clay, gravel, gypsum or sand may be leased at an annual rental, provided \$2.50 per acre per annum be expended in taking out the material.

For a copy of the regulations governing the disposal of mineral rights, application may be made to the Director, Mines Branch, Department of Mines and Natural Resources, Winnipeg, Manitoba.

Mining recorders' offices are located at Winnipeg and The Pas.

Saskatchewan.—On Oct. 1, 1930, the province of Saskatchewan came into control of its natural resources, which had previously been controlled and administered by the Dominion Government.

By the Mineral Resources Act of 1931 regulations, differing somewhat from those of former Dominion laws, have been brought into force dealing with coal, petroleum and natural gas, and placer. Except for these changes the regulations are similar to the former Dominion ones.

Coal.—The area which may be taken is now from 40 to 640 acres. Application may be made by mail or in person and any eligible person may apply for three locations. The length of a location must not exceed three times the breadth. The minimum required to be mined annually is 5 tons per acre. Prior to commencing, a lessee must secure a permit to operate.

Petroleum and Natural Gas.—Application for locations may be made by mail or in person. The area of a location is 160 to 1,920 acres but, while one applicant is allowed three locations, the total area must not exceed 1,920 acres. A permit must be obtained before commencing operations and all drillers must secure a licence of competency to ensure that drilling will be efficiently carried out. The record of a driller may be obtained by payment of a fee. Operators are required to furnish a substantial bond to guarantee compliance with the regulations.

Permits to prospect for oil and gas are granted under similar regulations except that a cash rental of 20 cents per acre is required and a bond of 30 cents per acre which is forfeited if work to determine structure is not carried out within one year.

Placer.—These regulations remain as under Dominion administration except that 30 instead of 10 adjoining claims may now be grouped.

The Saskatchewan Mines Act provides for the competency of mine managers and pit bosses, for the reporting of accidents and generally for the welfare and safety of those employed in the production of minerals.

Alberta.—Since the Dominion Government in 1930 transferred control of the natural resources lying within the boundaries of Alberta to the Provincial Government, the leasing or disposal of mineral lands or rights is administered under provincial laws and regulations. However, until new conditions necessitate change, mineral lands or rights within the province are being administered by the Provincial Government in accordance with the Dominion mining laws and regulations in force at the time of the transfer.

The Coal Mines Regulation Act of the province of Alberta and regulations made thereunder make provision for the safe operation of mines in the province, applying to mines of coal, ironstone, shale, clay and other minerals. Operations must be under the control of officials who hold certificates granted after suitable examination. A staff of inspectors is provided to administer the regulations. Monthly reports of operations must be returned to the Minister.

The Coal Sales Act requires that all coal mines shall be registered by name and all coal produced in Alberta sold under the registered name. The Coal Mines Wages Security Act requires all coal operators to provide bond to insure the payment of wages, unless exemption is obtained through the Board of Public Utility Commissioners.

British Columbia.—The Department of Mines, organized under the provisions of c. 163, R.S.B.C., and amendments, administers the mineral lands of the province, and has charge of all matters relating to mining, including the Bureau of Mines and all offices established under the Bureau of Mines Act and all Government offices in connection with the mining industry.

The terms of the mining laws are favourable to the prospector, fees and rentals being small. On a lode mine of 51 acres an expenditure of \$500 in work, which may be spread over 5 years, is required to obtain a Crown grant, while surface rights are obtainable at a figure in no case exceeding \$5 per acre. Any person over the age of 18 and any joint stock company can obtain a "free miner's certificate" on payment of a fee, which for the individual is \$5 per annum and for a joint stock company either \$50 or \$100 per annum depending on capitalization. Mineral claims located under the provisions of the Mineral Act must not exceed 1,500 feet square.

Placer.—Placer mining is governed by the "Placer Mining Act", and by the interpretation clause its scope is defined as "the mining of any natural stratum or bed of earth, gravel, or cement mined for gold or other precious minerals or stones".

Placer Claims.—Placer claims are of 3 classes, as follows: (1) Creek diggings—250 feet long and 1,000 feet wide, 500 feet on each side of the stream; (2) bar diggings—250 feet square on a bar covered at high water, or a strip 250 feet long at high water, extending between high-water mark and extreme low-water mark; (3) dry diggings, over which water never extends—250 feet square.

A placer claim must be worked by the owner, or someone on his behalf, continuously during working hours. Discontinuance for 72 hours, except in closed season, lay-over, leave of absence, sickness or other reason satisfactory to the Gold Commissioner is deemed abandonment. To hold a placer claim over one year, it must be again recorded before expiration of the year.

Placer Leases.—Leases of unoccupied Crown lands may be granted by the Gold Commissioner of the district. Placer leases are of 4 classes, as follows:—(1) Creek lease—on rivers or on abandoned or unworked creeks, half a mile in length; annual rental, \$37.50; annual expenditure required on development, \$250. (2) Bench lease—80 acres; annual rental, \$25; annual expenditure required on development, \$250. (3) Dredging lease—on the bed of any river below low-water mark, 5 miles; annual rental, \$25 per mile; annual expenditure required on development, \$1,000 per mile; the value of any new plant or machinery employed to count as money expended in development. (4) Precious stone diggings—10 acres.

Section 2.—Summary of General Production.

Since 1886, the first year that the Geological Survey issued complete returns of mineral production, Canada has shown a fairly steady growth in mineral output. In that year the per capita production was only \$2.23; in 1901, five years after the Yukon discoveries, production totalled \$12.16 per capita. There was a falling-off from 1902 to 1904. Thereafter, owing to the discovery of silver in the Cobalt area, the development of the copper and nickel ores of the Sudbury district, the opening up of the gold mines of Porcupine and Kirkland Lake in Ontario, the improvements in metallurgical practice which led to the recoveries of large quantities of lead and zinc from British Columbia ores, and the discoveries and developments in Quebec and Manitoba, the per capita production rose to \$31.00 in 1929, although owing to the current depression it has since dropped to \$21.92 in 1931.

In 1930, the latest year for which world figures are available, Canada stood first in the production of asbestos and nickel, second in output of gold and cobalt, third in silver, fourth in lead, copper and zinc and eleventh in the production of pig iron and coal. During that year Canada produced 87 p.c. of the world production of nickel, 66 p.c. of the asbestos, a little less than half the cobalt, 10.5 p.c. of the gold, 10.7 p.c. of the silver, 9.1 p.c. of the lead, 8.6 p.c. of the zinc, and 8.7 p.c. of the copper.

Preliminary figures of the 1931 mineral output, valued at \$227,456,365, reflected the exceptionally low prices for metals and the lessened demand for fuels, structural materials and other non-metallics. Prospecting in Canada during 1931 was chiefly confined to the more intensive exploration of areas believed to possess economic possibilities, especially of gold, due to its enhanced value in relation to other commodities. There was considerable activity in the further exploration of the mineralized areas of northwestern Quebec, and in the Porcupine, Kirkland Lake, Thunder Bay, Patricia and Matachewan districts of Ontario. In Manitoba important gold discoveries were reported at Island lake. Possibly the most interesting and important event in the year's prospecting activities was the announcement that high-grade native silver had been discovered in association with pitchblende (radium-bearing ore), smaltite (cobalt-bearing ore) and other valuable minerals in veins occurring at Echo bay at the northeast corner of Great Bear lake, N.W.T. There was also further exploration of recent copper discoveries in the same general region. Placer prospecting in British Columbia experienced a distinct revival.

While a number of properties producing copper, lead and zinc were idle as a result of the low prices of these metals, production of copper concentrates commenced at the Sherritt-Gordon mine in Manitoba. Completion of extensive mining and metallurgical developments in the Sudbury field has placed the nickel-mining industry in a position where it can respond immediately to any increased demand for either nickel or copper.

Subsection 1.—General Statistics of Mineral Production.

In Table 1 will be found the total values of the minerals produced in Canada in each year since 1886, while Table 2 gives the details of the mineral production of 1929 and 1930, with the percentage of increase or decrease in the latter year.

1.—Value of Mineral Production in Canada, calendar years 1886-1931.

Calendar Year.	Total Value.	Value per capita.	Calendar Year.	Total Value.	Value per capita.	Calendar Year.	Total Value.	Value per capita.
	\$	\$		\$	\$		\$	\$
1886.....	10,221,255	2.23	1901.....	65,797,911	12.16	1916.....	177,201,534	22.05
1887.....	10,321,331	2.23	1902.....	63,231,836	11.36	1917.....	189,646,821	23.18
1888.....	12,518,894	2.67	1903.....	61,740,513	10.83	1918.....	211,301,897	25.36
1889.....	14,013,113	2.96	1904.....	60,082,771	10.27	1919.....	176,686,390	20.84
1890.....	16,763,353	3.50	1905.....	69,078,999	11.49	1920.....	227,859,665	26.40
1891.....	18,976,616	3.92	1906.....	79,286,697	12.81	1921.....	171,923,342	19.56
1892.....	16,623,415	3.39	1907.....	86,865,202	13.75	1922 ¹	184,297,242	20.66
1893.....	20,035,082	4.04	1908.....	85,557,101	13.16	1923 ²	214,079,331	23.76
1894.....	19,931,158	3.98	1909.....	91,831,441	13.70	1924 ²	209,583,406	22.92
1895.....	20,505,917	4.05	1910.....	106,823,623	15.44	1925 ²	226,583,333	24.38
1896.....	22,474,256	4.38	1911.....	103,220,994	14.32	1926 ²	240,437,123	25.44
1897.....	28,485,023	5.49	1912.....	135,048,296	18.32	1927 ²	247,356,695	25.67
1898.....	38,412,431	7.32	1913.....	145,634,812	19.35	1928 ²	274,989,487	27.97
1899.....	49,234,005	9.27	1914.....	128,863,075	16.75	1929 ²	310,850,246	31.00
1900.....	64,420,877	12.04	1915.....	137,109,171	17.44	1930 ²	279,873,578	27.42
						1931.....	227,456,365 ¹	21.92

¹ Subject to revision. ² The per capita figures for the years 1922-30 inclusive are worked out on the basis of the revised population estimates (see p. 110).

2.—Mineral Production of Canada, calendar years 1929 and 1930.

Item.	1929.		1930.		P.C. Increase (+) or Decrease (-).	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		\$		\$	p.c.	p.c.
METALLIC.						
Arsenic (As ₂ O ₃)..... lb.	5,230,088	171,320	4,524,220	129,527	—	13.5
Bismuth..... lb.	194,329	307,114	12,732	6,366	—	93.4
Cadmium.....	—	676,294	—	337,871	—	—
Chromite..... tons	126	900	—	—	—	—
Cobalt..... lb.	929,415	1,801,915	694,163	1,144,007	—	25.3
Copper.....	248,120,760	43,415,251	303,478,356	37,948,359	+	22.3
Gold..... fine oz.	1,928,308	39,861,663	2,102,068	43,453,601	+	9.0
Titaniferous iron ore..... tons	2,748	7,359	412	1,239	+	85.0
Lead..... lb.	326,522,566	16,544,248	332,894,163	13,102,635	+	2.0
Manganese ore..... tons	—	—	273	1,356	—	—
Molybdenite..... lb.	16,150	6,400	—	—	—	—
Nickel.....	110,275,912	27,115,461	103,768,857	24,455,133	—	5.9
Palladium, rhodium, iridium, etc..... fine oz.	17,318	809,289	34,092	895,867	+	96.9
Platinum.....	12,519	846,756	34,024	1,543,261	+	171.8
Silver.....	23,143,261	12,264,308	26,443,823	10,089,376	+	14.3
Zinc..... lb.	197,267,087	10,626,778	267,643,505	9,635,166	+	35.7
Totals, Metallic Minerals \$	—	154,454,056	—	142,743,764	—	7.6
NON-METALLIC.						
<i>Fuels.</i>						
Coal..... tons	17,496,557	63,065,170	14,881,324	52,849,748	—	14.9
Natural gas..... M cu. ft.	28,378,462	9,977,124	29,376,919	10,289,985	+	3.5
Peat..... tons	2,607	13,339	2,847	10,932	+	9.2
Petroleum, crude..... bbl.	1,117,368	3,731,764	1,522,220	5,033,820	+	36.2
Totals, Fuels..... \$	—	76,787,397	—	68,184,485	—	11.2
<i>Other Non-Metallic Minerals.</i>						
Actinolite..... tons	30	375	34	437	+	13.3
Asbestos.....	306,055	13,172,581	242,114	8,390,163	—	20.9
Barytes.....	105	2,341	66	1,484	—	37.1
Beryl crystals..... lb.	4,456	114	—	—	—	—
Bituminous sands..... tons	989	3,956	2,067	8,268	+	109.0
Diatomite.....	429	10,330	554	13,247	+	29.1
Feldspar.....	37,527	340,471	26,796	268,469	—	28.6
Fluorspar.....	17,870	268,120	80	1,240	—	99.5
Graphite.....	1,461	103,174	1,535	96,392	+	5.1
Grindstones.....	1,947	106,354	830	62,021	—	57.4
Gypsum.....	1,211,689	3,345,696	1,070,968	2,818,788	—	11.6
Iron oxides.....	6,518	115,932	6,596	83,873	+	1.2
Magnesite.....	18,809	491,170	13,336	336,162	—	29.1
Managanes, bog.....	301	1,830	275	1,650	—	3.6
Mica.....	4,053	118,549	1,170	96,004	—	71.1
Mineral water..... gal.	321,905	16,139	227,141	24,481	—	29.4
Phosphate..... tons	1,185	5,380	40	760	—	96.6
Quartz.....	265,949	561,527	226,200	418,127	—	14.9
Salt.....	330,264	1,578,086	271,695	1,694,631	—	17.7
Silica brick..... M	3,951	173,581	2,418	97,379	—	38.8
Soapstone.....	—	47,986	—	50,168	—	—
Sodium carbonate..... tons	600	8,100	364	4,550	—	39.3
Sodium sulphate.....	5,018	64,112	31,571	293,847	+	529.2
Sulphur ¹	42,781	350,843	37,730	314,835	—	11.8
Talc.....	15,509	181,212	11,841	130,048	—	23.7
Volcanic dust.....	300	6,000	242	4,840	—	19.3
Totals, Other Non-Metallic Minerals... \$	—	21,073,959	—	15,217,864	—	27.8
Totals, Non-Metallic Minerals..... \$	—	97,861,356	—	83,402,349	—	14.8

¹ Includes sulphur content of pyrites at its sale value and estimated figures for quantity and value of sulphur in smelter gases used for acid making.

2.—Mineral Production of Canada, calendar years 1929 and 1930—concluded.

Item.	1929.		1930.		P.C. Increase (+) or Decrease (—).	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		\$		\$	p.c.	p.c.
LAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.						
<i>Clay Products.</i>						
rick—						
Soft mud process—						
(Face)..... M	26,624	538,096	11,350	247,220	—	57.4
(Common)..... M	77,399	1,195,511	56,487	861,805	—	27.0
Stiff Mud process— (wire cut)						
(Face)..... M	114,093	2,469,417	99,284	2,135,871	—	13.0
(Common)..... M	170,840	2,509,451	105,225	1,480,965	—	38.4
Dry press—						
(Face)..... M	38,591	813,461	29,434	604,197	—	23.7
(Common)..... M	26,131	368,039	16,915	208,495	—	35.3
Fancy or ornamental brick..... M	187	12,795	339	27,649	+	81.3
Sewer brick..... M	4,765	96,588	804	15,299	—	83.1
Paving brick..... M	97	3,844	9	297	—	90.7
Firebrick..... M	5,196	251,043	3,789	177,608	—	27.1
ire clay..... tons	5,041	35,226	2,870	25,975	—	43.1
entonite..... "	—	—	74	1,396	—	—
ire clay blocks and shapes	—	130,411	—	147,309	—	+
ollow blocks..... tons	221,800	2,214,384	165,359	1,667,783	—	25.4
oofing tile..... No.	35,075	4,628	3,056	356	—	93.3
loor tile (quarries)..... sq. ft.	307,400	70,186	179,786	56,230	—	41.5
rain tile..... M	25,000	720,316	25,291	687,070	+	1.2
ver pipe, copings, flue linings, etc.....	—	2,005,887	—	1,721,815	—	—
ottery, glazed and unglazed	—	323,194	—	294,866	—	—
ther clay products.....	—	142,166	—	231,372	—	+
Totals, Clay Products.. \$	—	13,904,643	—	10,593,578	—	—
<i>Other Structural Materials.</i>						
ement..... brl.	12,284,081	19,337,235	11,032,538	17,713,067	—	10.2
ime..... tons	674,087	5,908,610	490,802	4,038,698	—	27.2
and gravel..... "	27,846,945	7,317,814	28,547,511	8,344,913	—	12.5
ate..... "	—	—	150	3,000	—	—
one..... "	9,622,424	12,066,532	9,994,506	13,034,209	+	3.8
Totals, Other Structural Materials..... \$	—	44,630,191	—	43,133,887	—	—
Totals, Clay Products and Other Structural Materials..... \$	—	58,534,834	—	53,727,465	—	—
Grand Totals..... \$	—	310,850,246	—	279,873,578	—	—

An interesting comparison of the mineral production of the two years, 1929 and 1930, as to quantities and values, is furnished in Table 3.

Owing to the many different units in which the quantity of different minerals expressed the total volume of production from year to year is difficult to compare, while the wide variations in prices make comparisons of total values misleading. Table 3 is an attempt to overcome these difficulties by working out what the values would be in the later year if prices remained the same as in the former, and thus obtaining the increases or decreases due to changes in quantity alone; these are shown in the last column. Thus, had the 1929 prices ruled in 1930, the total value

of the mineral production in the later year would have shown an increase of \$518,000 or 0.2 p.c. over 1929, instead of the actual decrease of \$30,976,000 or 9.9 p.c. which occurred.

Increases in quantity were most important among the metallic minerals, especially copper, zinc, gold, silver and platinum. But in spite of this increase of nearly 12 p.c. in the quantity production of metallics in 1930, price declines were so great as to result in a decline of nearly 8 p.c. in value. Other important minerals showing an increased quantity production in 1930 were petroleum, natural gas, sodium sulphate, sand, gravel and stone.

As affecting the general value of mineral production, the largest decreases in quantity occurred in coal, asbestos, clay products, cement and lime.

3.—Mineral Production of Canada, Compared as to Quantity and Value, calendar years 1929 and 1930 ("000" omitted).

Item.	Actual Value 1930.	Value at Prices of 1929.	Actual Value 1929.	Actual Increase (+) or Decrease (-).	Due to Higher (+) or Lower (-) Prices.	Due to Larger (+) or Smaller (-) Quantities.
	\$	\$	\$	\$	\$	\$
METALLIC.						
Arsenic.....	130	148	171	- 41	- 18	- 23
Bismuth.....	6	20	307	- 301	- 14	- 287
Cadmium.....	338	398	675	- 337	- 60	- 277
Cobalt.....	1,144	1,346	1,802	- 658	- 202	- 456
Copper.....	37,948	53,100	43,415	- 5,467	- 15,152	+ 9,685
Gold.....	43,454	43,454	39,862	+ 3,592	-	+ 3,592
Lead.....	13,103	16,875	16,544	- 3,441	- 3,772	+ 331
Nickel.....	24,455	25,520	27,116	- 2,661	- 1,065	- 1,596
Palladium, rhodium, etc.....	896	1,079	809	+ 87	- 183	+ 270
Platinum.....	1,543	2,302	847	+ 696	- 759	+ 1,455
Silver.....	10,089	14,015	12,264	- 2,175	- 3,926	+ 1,751
Zinc.....	9,635	14,415	10,627	- 992	- 4,780	+ 3,788
Other metallics.....	3	2	15	- 12	+ 1	- 13
Totals, Metallic Minerals.....	142,744	172,674	154,454	- 11,710	- 29,930	+ 18,220
NON-METALLIC.						
Fuels.						
Coal.....	52,849	53,620	63,065	- 10,216	- 771	- 9,445
Natural gas.....	10,290	10,330	9,977	+ 313	- 40	+ 353
Petroleum, crude.....	5,034	5,080	3,732	+ 1,302	- 46	+ 1,348
Peat.....	11	15	13	- 2	- 4	+ 2
Totals, Fuels.....	68,184	69,045	76,787	- 8,603	- 861	- 7,742
Other Non-Metallic Minerals.						
Asbestos.....	8,390	10,420	13,173	- 4,783	- 2,030	- 2,753
Feldspar.....	268	243	340	- 72	+ 25	- 97
Fluorspar.....	1	1	268	- 267	-	- 267
Graphite.....	96	108	103	- 7	- 12	+ 5
Grindstones.....	62	45	106	- 44	+ 17	- 61
Gypsum.....	2,819	2,958	3,346	- 527	- 139	- 388
Iron oxides.....	84	117	116	- 32	- 33	+ 1
Magnesite.....	336	348	491	- 155	- 12	- 142
Mica.....	96	34	119	- 23	+ 62	- 85
Mineral water.....	25	11	16	+ 9	- 14	- 5
Quartz.....	418	478	562	- 144	- 60	- 84
Salt.....	1,695	1,298	1,578	+ 117	+ 397	- 280
Silica brick.....	97	106	174	- 77	- 9	- 68
Soapstone.....	50	51	48	+ 2	- 1	+ 3
Sodium sulphate.....	294	404	64	+ 230	- 110	+ 340
Sulphur.....	315	309	351	- 36	+ 6	- 42
Talc.....	136	138	131	- 45	- 2	- 43
Other non-metallics.....	36	35	38	- 2	+ 1	- 3
Totals, Other Non-Metallic Minerals....	15,218	17,104	21,074	- 5,856	- 1,886	- 3,970

3.—Mineral Production of Canada, Compared as to Quantity and Value, calendar years 1929 and 1930 ("000" omitted)—concluded.

Item.	Actual Value 1930.	Value at Prices of 1929.	Actual Value 1929.	Actual Increase (+) or Decrease (-).	Due to Higher (+) or Lower (-) Prices.	Due to Larger (+) or Smaller (-) Quantities.			
	\$	\$	\$	\$	\$	\$			
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.									
<i>Clay Products.</i>									
Brick—Soft mud Face.....	247	230	538	— 291	+	17	— 308		
process Common.....	862	873	1,196	— 334	—	11	— 323		
Stiff mud Face.....	2,136	2,150	2,469	— 333	—	14	— 319		
process Common.....	1,481	1,547	2,510	— 1,029	—	66	— 963		
(wire cut)									
Dry press Face.....	604	620	814	— 210	—	16	— 194		
Common.....	209	238	368	— 159	—	29	— 130		
Fancy or ornamental	28	23	13	+	15	+	5	+	10
Sewer brick.....	15	16	97	— 82	—	1	—	81	
Fire brick.....	178	183	251	— 73	—	5	—	68	
Fireclay blocks, etc.....	147	152	130	+	17	—	5	+	22
Hollow blocks.....	1,668	1,650	2,214	— 546	+	18	—	564	
Floor tile.....	56	41	70	— 14	+	15	—	29	
Drain tile.....	687	729	720	— 33	—	42	+	9	
Sewer pipe, copings, etc.....	1,722	1,827	2,006	— 284	—	105	—	179	
Pottery, glazed or not.....	295	302	323	— 28	—	7	—	21	
Other clay products.....	259	259	186	+	73	—	+	73	
Totals, Clay Products.	10,594	10,840	13,905	— 3,311	—	246	—	3,065	
<i>Other Structural Materials.</i>									
Cement.....	17,713	17,360	19,337	— 1,624	+	353	—	1,977	
Lime.....	4,039	4,305	5,909	— 1,870	—	266	—	1,604	
Sand and gravel.....	8,345	7,500	7,318	+	1,027	+	845	+	182
Stone.....	13,037	12,540	12,066	+	971	+	497	+	474
Totals, Other Struc- tural Materials.....	43,134	41,705	44,630	— 1,496	+	1,429	—	2,925	
Grand Totals.....	279,874	311,368	310,850	— 30,976	—	31,494	+	518	
Increase or decrease, p.c.....	—	—	—	— 9.9	—	10.1	+	0.2	

Subsection 2.—Provincial Distribution of Mineral Production.

The principal mineral-producing province of Canada in 1930 was Ontario, with an output valued at \$113,530,976. British Columbia came second with a mineral production valued at \$54,953,320. Quebec was third with \$41,215,220 and Alberta ranked fourth with \$30,427,742. Nova Scotia was fifth with \$27,019,367 and Manitoba, Yukon Territory, New Brunswick, and Saskatchewan followed in the order named, with productions of from \$5,453,182 down to \$2,368,612. The record of the respective provinces from 1899 on is given in Table 4.

4.—Mineral Production of Canada, by Provinces, calendar years 1899-1931.

Calendar Year.	Nova Scotia. ¹	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	Yukon.	British Columbia.
	\$	\$	\$	\$			\$		\$
1899...	6,817,274	420,227	2,585,635	9,819,557			17,108,707		12,482,605
1900...	9,298,479	439,060	3,292,383	11,258,099			23,452,230		16,680,526
1901...	7,770,159	467,985	3,759,984	13,970,010			19,297,940		20,531,833
1902...	10,686,549	607,129	3,743,636	14,619,091			16,127,400		17,448,031
1903...	11,431,914	580,495	3,585,938	14,160,033			14,082,986		17,899,147
1904...	11,212,746	559,913	3,688,482	12,582,843			12,713,613		19,325,174
1905...	11,507,047	559,035	4,405,975	18,833,292			11,387,642		22,386,008
1906...	12,894,303	646,328	5,242,058	25,111,682			10,092,726		25,299,600

4.—Mineral Production of Canada, by Provinces, calendar years 1899-1931—concluded.

Calendar Year.	Nova Scotia. ¹	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	Yukon.	British Columbia.
	\$	\$	\$	\$	\$	\$	\$	\$	\$
1907...	14,532,040	664,467	6,205,553	30,381,638	898,775	533,251	4,657,524	3,335,898	25,656,056
1908...	14,487,108	579,816	6,372,949	30,623,812	584,374	413,212	5,122,505	3,669,290	23,704,035
1909...	12,504,810	657,035	7,086,265	37,374,577	1,193,377	456,246	6,047,447	4,032,678	22,479,006
1910...	14,195,730	581,942	8,270,136	43,538,078	1,500,359	498,122	8,996,210	4,764,474	24,478,572
1911...	15,409,397	612,830	9,304,717	42,796,162	1,791,772	636,706	6,662,673	4,707,432	21,299,305
1912...	18,922,236	771,004	11,656,998	51,985,876	2,463,074	1,165,642	12,073,589	5,933,242	30,076,635
1913...	19,376,183	1,102,613	13,475,534	59,167,749	2,214,496	881,142	15,054,046	6,276,737	28,086,312
1914...	17,584,639	1,014,570	11,836,929	53,034,677	2,413,489	712,313	12,684,234	5,418,185	24,164,059
1915...	18,088,342	903,467	11,619,275	61,071,287	1,318,387	451,933	9,909,347	5,057,708	28,689,425
1916...	20,042,262	1,118,187	14,406,598	80,461,323	1,823,576	590,473	13,297,543	5,491,610	39,969,962
1917...	21,104,542	1,435,024	17,400,077	89,066,600	2,628,264	860,651	15,527,535	4,482,202	36,141,926
1918...	22,317,108	2,144,017	19,605,347	94,694,093	3,120,600	1,019,781	23,109,987	2,355,631	42,935,333
1919...	23,445,215	1,770,945	21,267,947	67,917,998	2,868,378	1,521,964	21,087,582	1,940,934	34,865,427
1920...	34,130,017	2,491,787	28,886,214	81,715,808	4,223,461	1,837,468	33,586,456	1,576,726	39,411,728
1921...	28,912,111	1,901,505	15,157,094	57,356,651	1,934,117	1,114,220	30,562,229	1,754,955	33,230,460
1922...	25,923,499	2,263,692	17,646,529	65,866,029	2,258,942	1,255,470	27,872,136	1,785,573	39,423,962
1923...	29,648,893	2,462,457	20,308,763	80,825,851	1,768,037	1,047,583	31,287,536	2,972,823	43,757,388
1924...	23,820,352	1,969,260	19,136,504	86,398,656	1,534,249	1,128,100	22,344,940	952,812	52,298,533
1925...	17,625,612	1,743,858	24,284,527	87,980,436	2,276,759	1,076,392	25,318,866	1,791,641	64,485,242
1926...	28,873,792	1,811,104	25,956,193	84,702,296	3,073,528	1,193,394	26,977,027	2,226,813	65,622,976
1927...	30,111,221	2,148,535	28,870,403	89,982,962	2,888,912	1,455,225	29,309,223	1,789,044	60,801,170
1928...	30,524,392	2,198,919	37,037,420	99,584,718	4,186,853	1,719,461	32,531,416	2,709,957	64,496,351
1929...	30,904,453	2,439,072	46,358,285	117,662,505	5,423,825	2,253,506	34,739,986	2,905,736	68,162,878
1930...	27,019,367	2,383,571	41,215,220	113,530,976	5,453,182	2,368,612	30,427,742	2,521,588	54,953,320
1931 ² ...	21,065,891	2,082,246	35,673,395	96,126,990	9,978,556	2,114,372	23,970,783	2,141,986	34,302,146

¹ Includes a small production from Prince Edward Island.² Figures for 1931 are subject to revision.

The quantities and values of the minerals produced in each province during 1930 are shown in Table 5. Coal accounts for 91 p.c. of the value of mineral production in Nova Scotia, with gypsum the item of next importance. Coal and gypsum are also the most important mineral products of New Brunswick, which is also one of the provinces with a production of natural gas and petroleum. Quebec is the only province in which asbestos is produced, and, while in 1929 this was her principal mineral, the successful development of the Rouyn mining district made copper the most important mineral product in 1930, with asbestos second. Other important minerals of Quebec are cement, stone and other structural materials, gold, zinc, magnesite and silver. In 1930 Quebec led all the provinces in the value of cement and stone produced. Gold represented 32 p.c. of the value of Ontario's mineral production in 1930, and with other metals, of which nickel, copper, silver, the platinoids and cobalt are the chief, made up 73 p.c. of the total for the province. As the most populous province, Ontario has a large production of the various structural materials, and there is also a large production of natural gas, salt and gypsum. Cement and other structural materials are the principal mineral products of Manitoba, although this province has recently become an important producer of the metals, gold, copper, refined zinc and silver. In 1930 gold accounted for 9 p.c. of the total. Gypsum is another important mineral. Saskatchewan's mineral production is small and coal constitutes about half the total, the remainder being structural materials and sodium sulphate. Coal is the principal product in Alberta, accounting for 59 p.c. of the total, while natural gas, petroleum and cement are the other most important products. The metals, chiefly lead, copper,

zinc, silver and gold, make up the greater part of the value of the minerals produced in British Columbia, although there is also a large production of coal. Silver, alluvial gold and lead are the principal mineral products of the Yukon Territory.

5.—Mineral Production of Canada, by Provinces, calendar year 1930.

NOTE.—The mineral production of the Yukon Territory during the calendar year 1930 was as follows in quantities and values:—Copper, 42,628 lb., \$5,534; Gold, 35,517 fine oz., \$734,202; Lead, 8,896,582 lb., \$349,369; Silver, 3,746,326 fine oz., \$1,429,373; Coal, 653 tons, \$3,110; Total, \$2,521,588.

Mineral.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.
METALLICS.								
Arsenic..... lb.	—	—	—	2,750,887	—	—	—	1,773,333
\$	—	—	—	109,932	—	—	—	19,595
Bismuth..... lb.	—	—	—	12,732	—	—	—	—
\$	—	—	—	6,366	—	—	—	—
Cadmium..... \$	—	—	—	—	—	—	—	337,871
Cobalt..... lb.	—	—	—	694,163	—	—	—	—
\$	—	—	—	1,144,007	—	—	—	—
Copper..... lb.	—	—	80,310,363	127,718,871	2,087,609	—	—	93,318,885
\$	—	—	10,425,891	15,187,259	215,018	—	—	12,114,657
Gold..... fine oz.	1,272	—	141,747	1,736,012	23,189	—	—	164,331
\$	26,295	—	2,930,170	35,886,552	479,359	—	—	3,397,023
Titaniferous iron ore tons	—	—	412	—	—	—	—	—
\$	—	—	1,239	—	—	—	—	—
Lead..... lb.	—	—	—	2,193,856	—	—	—	321,803,725
\$	—	—	—	116,034	—	—	—	12,637,232
Manganese..... tons	4	269	—	—	—	—	—	—
\$	60	1,296	—	—	—	—	—	—
Nickel..... lb.	—	—	—	103,768,857	—	—	—	—
\$	—	—	—	24,455,133	—	—	—	—
Palladium, rhodium, etc..... fine oz.	—	—	—	34,040	—	—	—	52
\$	—	—	—	894,511	—	—	—	1,356
Platinum..... fine oz.	—	—	—	34,000	—	—	—	24
\$	—	—	—	1,542,172	—	—	—	1,089
Silver..... fine oz.	67	—	571,164	10,205,683	94,653	—	—	11,825,930
\$	26	—	217,922	3,893,876	36,114	—	—	4,512,065
Zinc..... lb.	—	—	9,754,160	3,527,894	3,882,141	—	—	250,479,310
\$	—	—	351,150	127,004	139,757	—	—	9,017,255
Totals, Metallics \$	26,381	1,296	13,926,372	83,362,846	870,248	—	—	42,038,143
NON-METALLICS.								
Fuels.								
Coal..... tons	6,252,552	209,349	—	—	—	579,424	5,755,528	2,083,818
\$	24,528,860	864,118	—	—	—	968,863	18,063,225	8,421,572
Natural gas... M cu. ft.	—	661,975	—	7,965,761	600	—	20,748,583	—
\$	—	325,751	—	5,034,828	180	—	4,929,226	—
Peat..... tons	—	—	2,219	628	—	—	—	—
\$	—	—	9,330	1,602	—	—	—	—
Petroleum, crude... brl.	—	6,758	—	117,302	—	—	1,398,160	—
\$	—	17,378	—	235,746	—	—	4,780,696	—
Totals, Fuels \$	24,528,860	1,207,247	9,330	5,272,176	180	968,863	27,773,147	8,421,572
Other Non-Metallics.								
Actinolite..... tons	—	—	—	34	—	—	—	—
\$	—	—	—	437	—	—	—	—
Asbestos..... tons	—	—	242,114	—	—	—	—	—
\$	—	—	8,390,163	—	—	—	—	—
Barytes..... tons	66	—	—	—	—	—	—	—
\$	1,484	—	—	—	—	—	—	—
Bituminous sands... tons	—	—	—	—	—	—	2,067	—
\$	—	—	—	—	—	—	8,268	—
Diatomite..... tons	398	—	—	10	—	—	—	146
\$	7,960	—	—	140	—	—	—	5,147
Feldspar..... tons	—	—	17,074	9,722	—	—	—	—
\$	—	—	163,802	104,667	—	—	—	—
Fluorspar..... tons	—	—	—	80	—	—	—	—
\$	—	—	—	1,240	—	—	—	—
Graphite..... tons	—	—	197	1,338	—	—	—	—
\$	—	—	9,850	86,542	—	—	—	—
Grindstones..... tons	6	495	—	—	—	—	—	329
\$	110	35,689	—	—	—	—	—	26,222

5.—Mineral Production of Canada, by Provinces, calendar year 1930—continued.

Mineral.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.
Non-Metallics—con.								
<i>Other Non-Metallics—con.</i>								
Gypsum.....tons	827,063	82,674	—	94,946	34,157	—	—	32,128
\$	982,287	513,677	—	776,069	298,297	—	—	248,458
Iron oxides.....tons	—	—	6,590	—	—	—	—	—
\$	—	—	83,753	—	—	—	—	120
Magnesite.....tons	—	—	13,336	—	—	—	—	—
\$	—	—	336,162	—	—	—	—	—
Manganese, bog.....tons	—	275	—	—	—	—	—	—
\$	—	1,650	—	—	—	—	—	—
Mica.....tons	—	—	430	740	—	—	—	—
\$	—	—	61,729	34,275	—	—	—	—
Mineral water, imp. gal.	—	—	12,941	214,200	—	—	—	—
\$	—	—	3,727	20,754	—	—	—	—
Phosphate.....tons	—	—	40	—	—	—	—	—
\$	—	—	760	—	—	—	—	—
Quartz.....tons	8,057	—	49,561	167,487	—	—	—	1,095
\$	18,494	—	119,668	274,674	—	—	—	5,291
Salt.....tons	23,058	—	—	248,637	—	—	—	—
\$	136,226	—	—	1,558,405	—	—	—	—
Silica brick.....M	2,040	—	—	378	—	—	—	—
\$	78,259	—	—	19,120	—	—	—	—
Soapstone.....tons	—	—	50,168	—	—	—	—	—
\$	—	—	—	—	—	—	—	364
Sodium carbonate.....tons	—	—	—	—	—	—	—	4,550
\$	—	—	—	—	—	—	—	—
Sodium sulphate.....tons	—	—	—	—	—	31,571	—	—
\$	—	—	—	—	—	293,847	—	—
Sulphur ¹tons	—	—	12,653	7,277	—	—	—	17,800
\$	—	—	93,038	73,855	—	—	—	147,942
Talc.....tons	—	—	—	11,664	—	—	—	177
\$	—	—	—	133,213	—	—	—	2,835
Volcanic dust.....tons	—	—	—	—	—	242	—	—
\$	—	—	—	—	—	4,840	—	—
Totals, Other Non-Metallics \$	1,224,820	551,016	9,312,820	3,083,391	298,297	298,687	8,268	440,565
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.								
<i>Clay Products.</i>								
Brick—								
Soft mud process—								
Face.....M	240	—	—	9,798	—	—	1,312	—
\$	3,360	—	—	201,860	—	—	42,000	—
Common.....M	730	3,877	1,258	24,674	9,720	1,189	7,298	7,741
\$	9,718	62,625	12,754	375,088	156,585	16,867	92,158	136,010
Stiff mud process (wire cut)—								
Face.....M	962	1,124	33,585	57,001	1,204	1,691	2,589	1,122
\$	26,608	27,836	743,641	1,178,026	26,604	54,842	37,468	40,846
Common.....M	7,212	1,913	65,867	22,800	—	4,823	2,258	352
\$	98,133	28,711	927,218	346,126	—	55,159	20,549	5,069
Dry press—								
Face.....M	—	—	2,660	21,835	—	282	3,751	906
\$	—	—	67,291	431,683	—	9,058	61,616	34,549
Common.....M	—	—	—	4,246	—	—	10,886	1,783
\$	—	—	—	58,530	—	—	124,585	25,380
Fancy or ornamental brick.....M								
\$	—	—	74	265	—	—	—	—
\$	—	—	3,791	23,858	—	—	—	—
Sewer brick.....M								
\$	—	—	—	722	—	—	—	82
\$	—	—	—	12,490	—	—	—	2,809
Paving brick.....M								
\$	—	—	—	—	—	—	—	9
Firebrick.....M								
\$	—	—	—	—	—	504	16	297
\$	—	—	—	—	—	28,001	832	3,269
Fireclay.....tons								
\$	1,269	46	—	—	—	504	30	148,775
Bentonite.....tons								
\$	5,720	1,814	—	—	—	3,920	450	1,021
\$	—	—	—	—	—	—	—	14,071
\$	—	—	—	—	—	—	—	74
\$	—	—	—	—	—	—	—	1,396

¹ Sulphur content of pyrites at its sale value and estimated quantity and value of sulphur contained in the sulphuric acid made from bessemer gases.

5.—Mineral Production of Canada, by Provinces, calendar year 1930—concluded.

Mineral.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS—CON.								
<i>Clay Products—con.</i>								
Fireclay blocks and shapes..... \$	525	552	—	—	—	118,122	—	28,110
Follow blocks..... tons	9,378	600	39,769	85,155	1,335	7,566	13,123	8,433
Roofing tile..... No.	107,998	8,888	484,605	791,474	17,754	60,214	111,807	85,043
Floor tiles (quarries) sq. ft.	—	—	—	3,056	—	—	—	—
Drain tile..... M	—	—	—	356	—	—	—	—
Sewer pipe, copings, flue linings, etc. \$	—	—	—	179,047	—	739	—	—
Pottery, glazed or unglazed..... \$	—	—	—	56,054	—	176	—	—
Other clay products \$	—	—	—	22,783	310	25	58	1,164
Totals, Clay Products..... \$	3,796	193	28,763	593,980	15,024	1,000	3,785	40,529
<i>Other Structural Materials.</i>								
Cement..... brl.	—	—	4,865,609	3,942,690	977,906	—	525,289	721,044
Gravel..... tons	—	—	7,031,528	5,779,404	2,268,742	—	1,144,160	1,489,233
Sand and gravel..... tons	31,114	12,521	129,350	252,066	24,098	—	5,136	36,517
Plate..... tons	113,250	135,304	967,650	2,177,587	260,325	—	49,525	335,057
Stone..... tons	525,683	357,551	6,581,807	12,027,082	1,253,103	3,680,553	1,626,989	2,494,743
Clay..... tons	310,407	41,303	1,750,690	3,783,830	453,944	751,779	433,221	819,739
Brick..... tons	—	—	—	—	—	—	—	150
Flint..... tons	—	—	—	—	—	—	—	3,000
Granite..... tons	152,463	111,612	3,818,126	5,396,233	147,078	—	7,903	361,091
Marble..... tons	320,316	284,869	5,752,786	4,850,528	1,085,479	—	21,736	718,495
Totals, Other Structural Materials..... \$	743,973	461,476	15,502,654	16,591,349	4,068,490	751,779	1,648,642	3,365,524
Grand Totals... \$	27,019,367	2,383,571	41,215,220	113,530,976	5,453,182	2,368,612	30,427,742	54,953,320

Section 3.—Industrial Statistics of Mines and Minerals—
Capital, Labour, Wages, etc., in Principal Industries.

Annual statistical reports on the mineral production of Canada have been published for many years, first by the Geological Survey, later by the Mines Branch of the Department of Mines, and since 1921 by the Dominion Bureau of Statistics. Previous to that year the annual statistics of mines were confined chiefly to a representation of the quantity production of each of the minerals and their value at average market prices for the year. The recent treatment has been extended to include a general review of the principal mineral industries, such as the copper-gold, silver-lead-zinc and nickel-copper industries, as well as a section on metallurgical works. The additional data include such features as capital employed, numbers of employees, wages and salaries paid, and gross and net production. The aim has been to extend the mining statistics beyond a summary of the production of individual minerals by approaching the subject from the standpoint of industrial organization, definitely illustrating the place which mining holds in the scheme of Canadian productive enterprise.

The net value of the products of the mines, smelters, quarries, sand and gravel pits, oil and gas wells, clay products' plants, cement mills and other mineral industries should not be confused with the figures given as the value of mineral production. In calculating the mineral production values, the metals recoverable from Canadian ores are valued at average annual prices for these metals in recognized world markets, while the figures given below represent the actual net return to the mines or metallurgical works.

The Growth of the Mining Industry in Recent Years.—Industrial statistics of the mining industry were collected for the first time in 1922, showing the capital employed, the number of employees, the salaries and wages paid, the cost of fuel and electricity, and the net value of the product. In connection with the item of capital, operators were requested to report *only the capital actually invested in the enterprises*, including (1) cost of lands, buildings, plant, machinery and tools, (2) cost of materials on hand, supplies, finished products and ore on dump, and (3) cash, trading and operating accounts and bills receivable. It should be specially noted that no estimate of undeveloped ores was included in the capital.

The substantial growth of the mining industry in the past few years is clearly established by the summary statistics of Table 6, which show that the capital invested in the mining industry has increased from \$493,694,823 in 1922 to \$887,420,859 in 1930, the number of employees from 62,249 to 89,200, the salaries and wages from \$75,026,501 to \$113,975,332, the cost of fuel and electricity from \$11,096,564 to \$25,066,193, and the net value of products from \$182,858,578 to \$270,785,513. Illustrating the large part which the mineral industries have taken in Canadian progress during the post-war period, the figures for 1930 showed greater activity than so recently as 1927, in spite of the general depression which set in late in 1929. The metallic mining industries have shown the greatest progress, their capital, number of employees, salary and wage bill, and net value of products having all more than doubled between 1922 and 1927—a period of declining prices—and, in spite of the more drastic price decline since then, the 1930 figures for the above items exceed those of 1927. On the other hand, the non-metallic mineral industries as a group have shown little growth, due to the fact that coal mining is the predominant industry of the group and hydro-electric development has limited the demand for coal. Details are given in Table 6.

6.—Summary of Principal Statistics of the Mineral Industries in Canada, by Groups, 1922-30, and by Provinces, 1930.

Group and Year.	Firms.	Capital Employed.	Employees.	Salaries and Wages.	Fuel and Electricity.	Net Sales. ¹
	No.	\$	No.	\$	\$	\$
METALLIC MINERALS.						
1922	408	165,975,343	13,138	18,361,667	1,649,856 ²	60,347,000
1923	339	240,889,284	16,472	25,794,032	7,904,820	68,612,930
1924	296	281,828,285	19,809	29,692,896	7,788,506	86,825,600
1925	323	290,534,965	20,664	32,732,782	8,721,063	105,700,800
1926	396	320,248,840	23,742	36,083,798	10,023,885	115,939,100
1927	479	335,708,206	26,343	40,284,897	10,411,397	121,062,800
1928	508	435,327,646	28,582	44,687,131	9,756,573	140,770,700
1929	485	427,498,173	31,125	50,279,511	11,221,987	163,050,300
1930	225	427,439,265	30,623	48,851,303	11,323,313	136,994,600

¹ Gross value less freight and treatment charges and less value of ores charged in the case of smelters.

² Electricity was not included in 1922.

Summary of Principal Statistics of the Mineral Industries in Canada, by Groups, 1922-30, and by Provinces, 1930—concluded.

Group and Year.	Firms.	Capital Employed.	Employees.	Salaries and Wages.	Fuel and Electricity.	Net Sales. ¹
	No.	\$	No.	\$	\$	\$
NON-METALLIC MINERALS.						
1922.....	742	232,888,769	37,958	45,225,900	4,028,784 ²	82,976,794
1923.....	925	243,105,227	39,060	53,428,264	6,422,352	91,936,732
1924.....	935	259,360,944	33,831	41,933,916	5,788,085	71,796,009
1925.....	959	253,023,646	31,560	40,032,918	5,685,294	71,851,801
1926.....	967	274,109,129	36,166	44,379,854	6,535,609	85,240,144
1927.....	922	279,737,591	37,949	48,273,491	5,402,897	85,205,431
1928.....	862	295,725,531	39,086	54,089,011	5,824,098	89,312,961
1929.....	873	317,302,466	40,080	55,602,313	6,033,773	93,596,188
1930.....	901	328,776,506	38,355	47,852,675	5,785,483	80,063,355
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS.						
1922.....	794	94,830,711	11,153	11,438,934	5,417,924 ²	39,534,741
1923.....	1,031	94,842,501	11,420	12,112,581	6,930,164	37,751,381
1924.....	983	91,254,717	10,688	11,160,609	6,010,861	35,380,869
1925.....	1,072	88,516,534	12,866	12,337,418	6,159,443	37,649,234
1926.....	1,064	94,392,039	18,023	13,803,161	6,958,810	39,959,398
1927.....	949	98,627,203	20,382	15,662,514	7,145,990	44,809,419
1928.....	975	110,914,805	21,780	17,177,880	7,851,330	49,317,181
1929.....	1,028	122,220,364	23,897	18,608,687	9,495,825	58,534,834
1930.....	1,252	131,204,998	20,222	17,271,354	7,957,397	53,727,465
Grand Totals, Mineral Industries						
1922.....	1,944	493,694,823	62,249	75,626,501	11,096,564 ²	182,858,578
1923.....	2,295	578,837,012	66,952	91,334,877	21,257,336	198,301,049
1924.....	2,214	632,443,946	64,328	82,787,421	19,587,452	194,002,488
1925.....	2,354	632,075,145	65,090	85,103,118	20,565,800	215,201,873
1926.....	2,427	688,750,008	77,931	94,216,813	23,518,304	241,138,661
1927.....	2,350	714,073,000	84,674	104,229,892	22,960,284	251,077,661
1928.....	2,345	841,967,982	89,448	115,954,022	23,432,001	279,820,914
1929.....	2,386	867,621,033	95,102	124,490,511	26,751,585	315,181,388
1930—Canada.....	2,478	887,420,859	89,200	113,975,332	25,066,193	270,785,513
Nova Scotia.....	74	65,363,756	15,484	19,284,197	2,410,115	25,043,071
New Brunswick.....	49	5,349,073	1,391	1,132,306	162,591	2,350,372
Quebec.....	387	140,286,054	15,397	15,190,714	5,885,600	51,673,630
Ontario.....	1,123	326,396,783	24,706	34,433,915	9,022,652	105,434,625
Manitoba.....	50	35,812,839	3,021	4,372,044	1,205,288	5,665,008
Saskatchewan.....	73	6,424,080	1,371	1,040,790	229,760	2,333,280
Alberta.....	418	149,974,382	12,675	16,272,916	1,407,136	29,933,896
British Columbia.....	281	150,279,895	14,836	21,412,925	4,652,217	45,768,150
Yukon.....	23	7,534,017	319	835,525	90,834	2,583,481

¹ Gross value less freight and treatment charges and less value of ores charged in the case of smelters.

² Electricity was not included in 1922. ³ Includes a small production from P.E.I.

A summary of the principal statistics of the mining, metallurgical, clay products and other structural materials industries operating in Canada in 1929 and 1930 is presented in Table 7. The values produced by the metallic industries given in Tables 6 and 7 are as reported by the operating companies, and are in each case the settlements received for shipments by mine operators or for products sold less cost of ores treated by smelters and refiners. The totals, therefore, indicate more nearly the actual return to the different industries than do the values for the several metals in Table 2 of this chapter, where, in the cases of copper, lead, zinc and silver,

the values are computed by using the average prices for the year in the principal metal markets. Furthermore, the production figures of Table 2 include all quantities shipped from the mines, while metals absorbed in new metallurgical operations or remaining in stock at smelters and refineries are not included in the industrial figures of Tables 6 and 7. On the other hand, some imported ores and concentrates are treated in Canadian non-ferrous smelting and refining works. The net value of the products of these plants includes therefore the net value of the metals recovered from these imported ores and to this extent the net sales shown in Tables 6 and 7 include products not of Canadian origin. For these reasons the industrial returns differ from the total of production, and, while the larger in 1929, the industrial total is the smaller in 1930 on account of reduced treatment of foreign ores, increased metallurgical absorption and stocks on hand.

The total net value of products of the fuel industries in Table 7 is less than the total production of fuels in Table 2, because the net value of products of the industries is confined to that for which the operators receive some economic return while the production of the fuel commodities includes all of those commodities produced whether the producer actually receives payment in any form for them or not. Thus in coal mining, the industrial values in Table 7 include only coal sold supplied to employees for domestic consumption, or used in making coke and briquettes, whereas the figures of coal production as shown in Table 2 include in addition to the above, coal consumed for power and other purposes in the coal-mining operations and also the difference between coal put on the bank and lifted from the bank. Petroleum producers have a larger monetary return than the actual value of the petroleum produced because many oil wells also produce large quantities of natural gas. On the other hand, the natural gas industry receives a smaller return than the total value of all natural gas produced because some of the gas is produced by the petroleum industry, because of leakage or other loss in piping gas to the consumers, and because a small amount of natural gas is produced by private individuals or groups from their own wells for their own consumption without any industrial organization intervening between production and consumption.

For other non-metallic minerals and structural materials (if the small production of peat normally included with fuels is deducted) and clay products, returns to the producing industries are the same in each case as the total value of the mineral commodities produced.

Of the industries engaged in exploiting the mineral resources of Canada in 1930, coal mining was the greatest in the number of employees engaged, although the non-ferrous metallurgical industry exceeded coal mining in the amount of capital involved and in the net value of sales. Auriferous quartz mining was third in net production, in capital invested and in number of employees, and second in the amount of salaries and wages. Other large mineral industries with a net production valued at over \$8,000,000 in 1930 were copper-gold-silver mining and milling, silver-lead-zinc mining and milling, cement manufacturing, stone quarrying, brick and tile manufacturing, nickel-copper mining and milling, natural gas wells, and asbestos mining and milling.

7.—Summary of Principal Statistics of the Mineral Industries of Canada, by Industries, 1929 and 1930.

Industry and Year.	Firms.	Capital Employed.	Em- ployees.	Salaries and Wages.	Fuel and Electri- city.	Net Sales. ¹
METALLIC MINERALS.	No.	\$	No.	\$	\$	\$
Alluvial gold.....1929	68	7,237,850	488	586,193	2,969	836,006
1930	79	5,881,620	394	612,369	8,272	877,778
Auriferous quartz.....1929	80	135,166,105	8,660	14,258,733	2,579,481	37,275,986
1930	54	119,758,057	8,401	14,034,620	2,364,102	39,750,540
Copper-gold-silver.....1929	144	52,546,697	5,243	8,498,755	1,035,133	21,859,907
1930	61	45,844,395	5,694	9,156,759	1,272,262	15,629,564
Silver-cobalt.....1929	27	15,820,455	1,149	1,532,333	407,952	3,918,316
1930	23	12,268,322	1,043	1,488,591	352,844	3,637,181
Silver-lead-zinc.....1929	149	50,573,661	4,153	6,482,392	793,139	22,748,089
1930	86	42,053,674	2,866	4,263,961	654,685	13,000,815
Nickel-copper.....1929	2	19,448,290	3,219	5,105,875	184,363	7,967,640
1930	2	26,194,605	3,483	5,388,783	200,151	8,460,556
Miscellaneous metals.....1929	8	6,050	94	42,837	10,217	6,400
1930	10	427,906	116	110,096	5,100	2,595
Smelting and refining.....1929	7	146,699,085	8,119	13,772,393	6,208,733	68,438,022 ²
1930	10	175,010,686	8,626	13,796,124	6,465,897	55,635,664 ²
Totals, Metallic Minerals.....1929	455	427,498,173	31,125	50,279,511	11,221,987	163,050,366
1930	325	427,439,265	30,623	48,851,303	11,323,313	136,994,693
NON-METALLIC MINERALS.						
Fuels.						
Coal.....1929	357	141,766,727	29,739	42,376,378	3,657,355	59,584,545
1930	390	140,316,395	29,172	36,442,361	3,595,416	49,905,327
Natural gas.....1929	145	68,592,709	1,953	2,275,147	41,590	8,555,971
1930	124	70,548,353	1,941	2,349,703	33,811	8,447,385
Petroleum.....1929	231	54,526,398	2,221	3,748,689	293,354	4,368,374
1930	234	63,300,244	1,869	3,337,754	363,998	6,481,847
Totals, Fuels.....1929	733	264,885,834	33,913	48,400,214	3,992,299	72,508,890
1930	748	274,164,992	32,982	42,129,818	3,993,225	64,834,559
Other Non-Metallic Minerals.						
Abrasives (natural).....1929	9	790,791	154	152,805	18,942	122,684
1930	10	345,102	45	42,867	4,305	80,108
Asbestos.....1929	7	33,248,957	3,391	4,410,535	1,335,610	13,172,581
1930	7	35,097,872	2,770	3,474,215	1,133,737	8,390,163
Feldspar.....1929	19	223,443	209	164,440	14,122	340,471
1930	25	106,361	251	113,783	8,575	268,469
Gypsum.....1929	17	7,438,605	987	1,054,213	281,019	3,345,696
1930	16	8,796,865	822	781,639	201,409	2,818,788
Iron oxides.....1929	4	159,523	48	47,324	13,564	115,932
1930	4	150,704	43	41,238	13,929	83,873
Mica.....1929	14	281,295	83	47,362	355	118,549
1930	13	441,744	244	63,316	1,102	96,004
Quartz.....1929	19	1,000,232	279	189,451	27,340	561,527
1930	26	764,127	178	143,605	27,070	418,127
Salt.....1929	8	4,567,543	424	516,453	249,664	1,578,086
1930	8	4,685,549	381	455,539	197,313	1,694,631
Talc and soapstone.....1929	5	654,635	86	74,300	21,395	229,198
1930	6	614,384	141	79,472	16,369	186,216
Miscellaneous ³1929	38	4,042,638	506	545,216	79,463	1,502,574
1930	38	3,608,896	498	527,183	188,449	1,192,417
Totals, Other Non-Metallic Minerals.1929	140	52,416,662	6,167	7,202,099	2,041,474	21,087,298
1930	153	54,611,604	5,373	5,722,857	1,792,258	15,228,796
Totals, Non-Metallic Minerals.1929	873	317,302,496	40,080	55,602,313	6,033,773	93,596,188
1930	901	328,776,596	38,355	47,852,675	5,785,483	80,063,355
CLAY PRODUCTS AND OTHER STRUC- TURAL MATERIALS.						
Clay Products.						
Brick, tile and sewer pipe.....1929	181	33,493,902	5,366	5,541,452	2,902,869	13,568,646
1930	186	32,757,926	4,870	4,807,380	1,910,899	10,296,960
Stoneware and pottery.....1929	4	696,154	155	177,620	17,515	326,408
1930	5	672,851	156	153,750	11,707	296,618
Totals, Clay Products.....1929	186	34,190,056	5,530	5,727,014	2,920,384	13,904,643
1930	191	33,430,777	5,026	4,961,130	1,922,606	10,593,578

For footnotes see end of table, p. 260.

7.—Summary of Principal Statistics of the Mineral Industries of Canada, by Industries, 1929 and 1930—concluded.

Industry and Year.	Firms.	Capital Employed.	Em- ployees.	Salaries and Wages.	Fuel and Electricity.	Net Sales. ¹
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS—con.	No.	\$	No.	\$	\$	\$
<i>Other Structural Materials.</i>						
Cement.....1929	8	50,881,818	2,546	3,523,595	4,347,219	19,337,235
.....1930	8	59,210,737	2,317	3,172,198	4,120,367	17,713,067
Lime.....1929	46	7,404,677	1,382	1,393,092	1,183,313	5,908,610
.....1930	44	8,816,879	1,086	1,087,778	886,354	4,038,697
Sand and gravel.....1929	541	9,154,055	8,758	2,505,225	285,491	7,317,812
.....1930	724	7,550,217	5,601	2,508,037	331,010	8,344,913
Stone.....1929	247	20,589,758	6,681	5,459,761	759,418	12,066,532
.....1930	285	22,196,388	6,192	5,542,211	697,060	13,037,209
Totals, Other Structural Mater- ials.....1929	842	88,030,308	18,367	12,881,673	6,575,441	44,630,197
.....1930	1,061	97,774,221	15,196	12,310,224	6,034,791	43,133,887
Totals, Structural Materials and Clay Products.....1929	1,028	122,229,364	23,897	18,608,687	9,495,825	58,534,834
.....1930	1,252	131,204,998	29,222	17,271,354	7,957,397	53,727,465
Grand Totals, Mineral Indus- tries.....1929	2,386	867,021,033	95,162	124,490,511	26,751,585	315,181,388
.....1930	2,478	887,420,859	89,200	113,975,332	25,066,113	270,785,513

¹ Value of shipments by mine operators and of products sold by metallurgical works, less estimated cost of ores, concentrates, matte, etc., treated, irrespective of their origin. The major part of the value of ores treated is included as products of mines and mills, but there is necessarily a lag between production of ores and sales of smelter products, while some imported ores are also treated in these Canadian smelters.

² Value added by smelting and refining. ³ Includes a small production of peat, normally included in fuels.

Section 4.—Production of Metallic Minerals.

Subsection 1.—Gold.

Canada has been a gold-producing country for over 70 years. During the last half of the 19th century production was chiefly the result of placer operations in British Columbia and the Yukon, while during the present century there has been a rapid growth of production from lode mining both of auriferous quartz and of gold in association with other metals.

In 1931 the value of gold produced in Canada exceeded that of coal for the first time. Under the influence of the current depression, the production of coal has declined in quantity and value, while the general decline in commodity prices and the heavy discount to which the Canadian dollar was subjected in New York, following the suspension of specie payments by Great Britain in September, 1931, have reacted to the immediate benefit of Canadian gold producers. Thus gold ranked first among the minerals in 1931. With reports of favourable results from prospecting and exploration, and with plans for expansion in a number of producing mines, there is every prospect for a continued increase in gold production.

Gold production in Canada attained its former maximum in 1900, when the Yukon production reached its highest point and 1,350,057 fine oz. of gold were produced. For the provinces, the years in which the greatest yields were obtained were as follows: Nova Scotia, 1902; Quebec, 1931; Ontario, 1931; Manitoba, 1931; Alberta, 1896; British Columbia, 1913 and Yukon, 1900. The quantities and values of gold produced in Canada are given by provinces for 1911 and subsequent years in Tables 8 and 9, 1931 establishing a new record of production with 2,695,219 fine oz.

British Columbia.—The discovery of gold in paying quantities was an epoch-making event in the history of British Columbia. In the late '50's, alluvial gold was discovered along the Thompson river and in 1858 the famous Fraser River rush took place. The extraordinarily rich deposits of Williams and Lightning creeks, in the Cariboo district, were discovered in 1860, and three years later the

area had a production of alluvial gold valued at \$4,000,000. In the northern part of the province, the Atlin division of the Cassiar district was discovered in 1892. Then the introduction of lode mining resulted in a rapidly increasing production until 1902, when previous records were surpassed by an output of more than 288,000 fine oz. With the exception of the maximum output of 297,459 fine oz. in 1913, the record of 1902 has not since been equalled. Though the bulk of the gold obtained in the Cordilleran region has been derived from the placer deposits of the central portion of the region from Yukon at the north almost to the International Boundary on the south, yet a large amount, averaging 178,039 fine oz. between 1913 and 1921, was obtained by lode mining, largely of the copper-gold ores of the Rossland and Yale boundary districts. The copper concentrates of the Britannia mine also contain gold, as does the blister copper made at Anyox. The output of gold in British Columbia has been in part maintained by the successful operation of the Premier mine on the Portland canal, while the Nickel Plate property, operated by the Hedley Gold Mining Co., now closed down, was a consistent producer of gold bullion and arsenical gold concentrates, which were exported to the United States for treatment. The Pioneer gold mine in the Lillooet district has reported a substantial production of gold during the past two years and production is expanding. Placer prospecting in British Columbia experienced a distinct revival during the 1931 season and resulted in pronounced activity, especially in the Stikine, Liard and Atlin districts.

Yukon.—The discovery of gold in the Yukon river was reported in 1869, and bar-mining on the tributaries of the Yukon was conducted with increasing profit between 1881 and 1886. Ten years later, rich discoveries were made in creeks of the Klondike river, a right-bank tributary joining the Yukon at what is now Dawson city, and one of the greatest rushes in history was made to this locality. The richest streams in the district were Ponanza creek and its principal tributary, the Eldorado. There is still a production of gold from alluvial operations in the Yukon.

Nova Scotia.—Gold was discovered in Nova Scotia in 1860. Two years after the discovery gold valued at nearly \$142,000 was recovered from the quartz veins; a steady, though in recent years declining, output has been reported since that time.

Quebec.—Although Quebec produced gold as early as 1823, production consisted only of the small quantities recovered in the treatment of the lead and zinc ores of the Notre-Dame-des-Anges district and from the gravels of the Chaudière river. Important discoveries of copper-gold deposits, however, were more recently made at Rouyn, in the northwestern part of the province, adjacent to the Kirkland Lake district of Ontario. Smelting facilities became available for this region with the opening of the Noranda smelter in December, 1927.

These developments and the bringing in of new gold properties in the same general area made Quebec the third largest gold-producing province in the Dominion in 1928, while in 1931 there was further intensive exploration and development in this district of the province. In Duparquet township a large low-grade ore zone on the Beattie claims was diamond-drilled and plans were advanced for developing this property into a large-tonnage gold mine. Gold discoveries in the Louvicourt-Pascal district, east of the Siscoe mine, created considerable interest and at the Noranda mine underground exploration indicated important tonnages of new high-grade copper-gold ore.

Ontario.—Although gold was first discovered during 1866 in Hastings County and was later found and worked at many points from there to the lake of the Woods in the west, a distance of roughly 900 miles, no permanent gold industry was estab-

lished until about 1911, when the Porcupine camp was opened up. Soon afterwards the discovery of gold in the Kirkland Lake area, on what is now the Wright-Hargreaves mine, led to the later development of this second camp. Porcupine was the most important gold-mining area of the province and of Canada from 1912 until 1930, with the Hollinger the leading mine. In 1931, however, output from the Kirkland Lake camp exceeded that of the older area and the Lake Shore mine increased its production beyond that of any other Canadian gold mine.

Active prospecting and exploration were carried on during 1931 in a number of areas in Ontario. One of chief importance was the Matachewan district surrounding the recent gold discoveries in Bannockburn township. The Ashley property, on which the first important discovery in the area was made, was systematically explored by the Mining Corporation of Canada with encouraging results being reported from underground operations. In the northwestern part of the province gold discoveries were reported at Red lake, Little Long lake, Three Duck lake and in the Beardmore area. At Summit lake in the district of Patricia, a promising gold occurrence was actively developed. The larger gold mines in both Porcupine and Kirkland lake carried on important exploration and development programs; in the Porcupine camp the McIntyre-Porcupine Mines, Ltd. prepared to sink to 6,000 feet, while at Kirkland lake the Lake Shore mine opened up two sections of ore showing remarkable widths and high gold values.

Manitoba.—The presence of gold-bearing ores in Manitoba has been known for a decade or more and the gold production of this province also is now mounting. The Central Manitoba, an auriferous-quartz property in the Rice Lake area east of lake Winnipeg, has produced gold steadily for several years. The San Antonio in the same field has had a mill operating since May, 1932. But the major part of the gold of the province is produced as a by-product from the Flin Flon smelter which treats ores from the Sherritt-Gordon and Flin Flon copper-zinc properties.

Important gold discoveries were reported in the autumn of 1931 at Island lake, which lies near the Ontario boundary to the northeast of lake Winnipeg.

8.—Quantities of Gold Produced in Canada, by Provinces, calendar years 1911-31.

NOTE.—For the years 1862 to 1910, see Canada Year Book, 1916-17, pp. 268 and 269.

Year.	Nova Scotia.	Quebec.	Ontario.	Manitoba.	Alberta.	British Columbia.	Yukon Territory.	Total.
	oz. fine.	oz. fine.	oz. fine.	oz. fine.	oz. fine.	oz. fine.	oz. fine.	oz. fine.
1911.....	7,781	613	2,062	—	10	238,496	224,197	473,159
1912.....	4,385	642	86,523	—	73	251,815	268,447	611,885
1913.....	2,174	701	219,801	—	—	297,459	282,338	802,973
1914.....	2,904	1,292	268,264	—	48	252,730	247,940	773,178
1915.....	6,636	1,099	406,577	—	195	273,376	230,173	918,066
1916.....	4,562	1,034	492,481	—	82	219,633	212,700	930,492
1917.....	2,210	1,511	423,261	440	—	133,742	177,667	738,831
1918.....	1,176	1,939	411,976	1,926	27	180,163	102,474	699,681
1919.....	850	1,470	505,739	724	24	167,252	90,705	766,764
1920.....	690	955	564,995	781	—	124,808	72,778	765,007
1921.....	439	635	708,213	207	49	150,792	65,994	926,329
1922.....	1,042	—	1,000,340	156	—	207,370	54,456	1,263,364
1923.....	655	667	971,704	31	—	200,140	60,144	1,233,341
1924.....	1,047	883	1,241,728	1,180	—	245,719	34,825	1,525,382
1925.....	1,626	1,602	1,461,039	4,424	—	219,227	47,817	1,735,735
1926.....	1,678	3,680	1,497,215	188	—	225,866	25,601	1,754,228
1927.....	3,151	8,331	1,627,050	182	42	183,094	30,935	1,852,785
1928.....	1,290	60,006	1,578,434	19,813	63	196,617	34,364	1,890,592
1929.....	2,687	90,798	1,622,267	22,455	5	154,204	35,892	1,928,308
1930.....	1,272	141,747	1,736,012	23,189	—	164,331	35,517	2,102,068
1931 ¹	460	303,877	2,085,818	102,969	195	160,594	44,306	2,695,219

¹Figures for 1931 are subject to revision.

9.—Values of Gold Produced in Canada, by Provinces, calendar years 1911-31.

NOTE.—For the years 1862 to 1910, see Canada Year Book, 1916-17, p. 270.

(Value calculated on basis 1 fine oz.=£20·671834.)

Year.	Nova Scotia.	Quebec.	Ontario.	Manitoba.	Alberta.	British Columbia.	Yukon Territory.	Total.
	\$	\$	\$	\$	\$	\$	\$	\$
911.....	160,854	12,672	42,625	—	207	4,930,145	4,634,574	9,781,077
912.....	90,638	13,270	1,788,596	—	1,509	5,205,485	5,549,296	12,648,794
913.....	44,935	14,491	4,543,690	—	—	6,149,027	5,846,780	16,598,923
914.....	60,031	26,708	5,545,509	—	992	5,224,393	5,125,374	15,983,007
915.....	137,180	22,720	8,404,693	—	4,026	5,651,184	4,758,098	18,977,901
916.....	94,305	21,375	10,180,485	—	1,695	4,540,216	4,396,900	19,234,976
917.....	45,685	31,235	8,749,581	9,095	—	2,764,693	3,672,703	15,272,992
918.....	24,310	40,083	8,516,299	39,814	558	3,724,300	2,118,325	14,463,689
919.....	17,571	30,388	10,454,553	14,966	500	3,457,406	1,875,039	15,850,423
920.....	14,263	19,742	11,679,483	16,145	—	2,580,010	1,504,455	15,814,098
921.....	9,075	13,127	14,640,062	4,279	1,013	3,117,147	1,364,217	19,148,920
922.....	21,540	—	20,678,862	3,225	—	4,286,718	1,125,705	26,116,050
923.....	13,540	13,788	20,086,904	641	—	4,137,261	1,243,287	25,495,421
924.....	21,643	18,253	25,668,795	24,393	—	5,079,462	719,897	31,532,443
925.....	33,612	33,116	30,202,357	91,452	—	4,531,824	988,465	35,880,826
926.....	34,687	76,072	30,950,180	3,886	—	4,669,065	529,220	36,263,110
927.....	65,137	172,217	33,634,108	3,762	868	3,784,889	639,483	38,300,464
928.....	26,667	1,240,434	32,629,126	409,571	1,406	4,064,434	710,367	39,082,005
929.....	55,545	1,876,961	33,535,234	464,186	103	3,187,680	741,954	39,861,663
930.....	26,295	2,930,170	35,856,552	479,359	—	3,397,023	734,202	43,453,601
931 ¹	9,509	6,219,679	43,117,684	2,128,553	4,031	3,319,773	915,886	55,715,120

¹Subject to revision.

World Production.—A sketch of the development of the gold-mining industry of the world since the discovery of America may take the form of a reference to four successive periods. During the first period, extending from 1493 to 1760, the annual production averaged nearly 337,000 fine oz. The placer mining of Brazil and Colombia swelled the average output of the last 60 years of the period to about 506,000 fine oz. per year.

The production of Russia from placer mining was a considerable factor in the next period, extending from 1761 to 1840, that country retaining first rank among the world's producers until 1837. The average annual production during the period was 565,500 fine oz.

The third period, extending from 1841 to 1890, was notable for the remarkable discoveries of gold in California and Australia in 1848 and 1851 respectively. The annual average during the 50 years was 4,937,000 fine oz. For the first decade the average was 1,761,000 fine oz. and for the second 6,448,000, while in the last decade it declined to 5,201,000. The production of the period was contributed chiefly by the United States, Australia and Russia.

In the fourth period, extending from 1891 to the present time, the outstanding features were the entry of South Africa as an important and then as the leading producer, and the phenomenal increase in the output of most of the gold-producing countries through the introduction of the cyanide process. The output was 3,320,000 fine oz. in 1891 and a steady increase was recorded until 1915, when a maximum of 22,737,000 fine oz. was produced. Thereafter the great increase in wages and in the other costs of production of an article of fixed value brought about a steady decline to a minimum production of 15,451,945 fine oz. in 1922, increased to 17,790,597 fine oz. in 1923, to 19,025,942 in 1925 and to 20,160,355 in 1930.

In 1930 the world's chief producers were the Union of South Africa, with a production of 10,716,351 fine oz. or 53·4 p.c., Canada, producing 2,107,073¹ fine oz.

¹The revised figure for Canada is 2,102,063 fine oz.

or 10.5 p.c., and the United States, producing 2,100,395 fine oz. or 10.4 p.c. Australia, Rhodesia and British India were also important producers over 72 per cent of the world production of 1930 was produced in the British Empire. Preliminary figures for 1931 show that Canada again exceeded the United States in gold production and now definitely ranks second to South Africa.

Detailed statistics of world gold production for 1929 and 1930 follow:—

10.—Quantities and Values of the World Production of Gold and Silver for the calendar years 1929 and 1930.

(From the Annual Report of the Director of the United States Mint.)

Country.	Calendar Year 1929.				Calendar Year 1930. ⁵			
	Gold.		Silver.		Gold.		Silver.	
	Quantity.	Value.	Quantity.	Value (\$0.53631 per oz.). ¹	Quantity.	Value.	Quantity.	Value (\$0.38724 per oz.). ²
	oz. fine.	\$	oz. fine.	\$	oz. fine.	\$	oz. fine.	\$
North America—								
United States...	2,056,629	42,514,300	61,233,321	32,840,042	2,100,395	43,419,018	50,627,243	19,604,894
Canada...	1,928,308	39,861,664	23,143,261	12,411,962	2,107,073	43,557,064	26,435,935	10,237,053
Mexico...	654,799	13,535,897	108,871,442	58,388,843	670,488	13,860,217	105,410,912	40,819,322
Totals...	4,639,736	95,911,861	193,248,024	103,640,847	4,877,956	100,836,299	182,474,090	70,661,269
Central America and West Indies ³	53,212	1,100,000	3,000,000	1,608,930	58,050	1,200,000	3,900,000	1,510,236
South America—								
Argentina ⁴	1,000	20,672	15,000	8,045	1,000	20,672	15,000	5,809
Bolivia...	1,499	30,985	4,816,220	2,582,987	16,479	340,655	7,091,100	2,745,955
Brazil...	107,381	2,219,762	21,026	11,276	96,750	2,000,000	20,000 ⁵	7,745
Chile...	10,734	221,890	328,435	176,143	16,686	344,930	732,441	283,630
Colombia...	48,375	1,000,000 ⁶	60,000 ⁶	32,179	48,375	1,000,000 ⁶	60,000 ⁶	23,284
Ecuador...	67,328	1,391,793	96,511	51,760	69,998	1,447,000	106,127	41,097
Guiana—								
British...	6,385	131,995			6,933	143,318		
Dutch...	2,975	61,503	7,500 ³	4,022	3,948	81,620	7,500 ³	2,804
French...	41,136	850,353			43,538	900,000 ⁵		
Peru...	122,138	2,524,816	21,495,169	11,528,074	90,052	1,861,540	15,500,351	6,002,350
Venezuela...	43,206	893,155	4,019	2,155	55,946	1,156,494	4,179	1,618
Totals...	452,157	9,346,924	26,843,880	14,396,641	449,705	9,296,229	23,536,698	9,114,356
Europe—								
Austria...	—	—	10,578	5,673	—	—	10,224	3,959
Czechoslovakia...	5,015	103,669	722,989	387,746	2,411	49,840	890,555	344,858
France...	54,012	1,116,527	360,080	193,115	54,012	1,116,527	360,080	139,437
Germany...	5,819	120,289	5,512,760	2,956,548	6,076	125,602	5,485,433	2,124,179
Great Britain...	12	248	35,976	19,294	—	—	40,959	15,861
Greece...	482	9,964	241,125	129,318	482	9,964	241,125	93,373
Italy...	1,543	31,89	518,676	278,171	1,723	35,627	571,653	221,367
Norway...	—	—	282,920	151,733	—	—	337,800	130,810
Poland...	—	—	360,659	193,425	—	—	558,671	216,340
Rumania...	71,148	1,470,760	90,727	48,658	71,148	1,470,760	90,727	35,138
Russia ³ ...	1,030,000	20,671,835	300,000	160,893	1,000,000 ⁵	20,671,835	300,000 ⁵	116,172
Spain...	484	10,000 ⁶	2,659,223	1,426,168	484	10,000 ⁶	2,659,223	1,029,757
Sweden ³ ...	10,000	206,718	75,000	40,223	10,000 ⁶	206,718	75,000 ⁶	29,043
Yugoslavia...	18,455	381,499	79,989	42,899	23,148	478,512	100,308	38,843
Totals...	1,166,970	24,123,406	11,250,702	6,033,864	1,169,484	24,175,385	11,721,758	4,539,132
Asia—								
British India...	363,869	7,521,840	7,298,327	3,914,166	329,231	6,805,809	7,072,050	2,738,581
China ³ ...	50,000	1,033,592	50,000	26,816	50,000	1,033,592	50,000	19,362
Chosen (Korea)...	137,539	2,843,164	60,143	32,255	159,608	3,299,400	68,756	26,625
Federated Malay States...	24,431	505,041	—	—	29,597	611,824	—	—
Indo-China...	514	10,625	3,183	1,707	514	10,625	3,183	1,233
Japan...	356,048	7,360,167	5,674,699	3,043,398	356,048	7,360,167	5,674,699	2,197,470
Netherland East Indies...	107,899	2,230,470	1,967,934	1,055,423	110,435	2,282,894	2,094,251	810,978
Philippine Islands...	160,626	3,320,434	101,465	54,419	179,204	3,704,475	110,307	42,715
Sarawak...	1,405	29,044	—	—	1,730	35,761	—	—
Taiwan...	15,082	311,773	12,964	6,953	15,082	311,773	12,964	5,020
Turkey ³ ...	900	18,605	220,000	117,988	900	18,605	220,000	85,193
Totals...	1,218,313	25,184,755	15,388,715	8,253,125	1,232,349	25,474,925	15,306,210	5,927,177

10.—Quantities and Values of the World Production of Gold and Silver for the calendar years 1929 and 1930—concluded.

(From the Annual Report of the Director of the United States Mint.)

Country.	Calendar Year 1929.				Calendar Year 1930. ⁵			
	Gold.		Silver.		Gold.		Silver.	
	Quantity.	Value.	Quantity.	Value (\$0.53631 per oz.). ¹	Quantity.	Value.	Quantity.	Value (\$0.38724 per oz.). ¹
	oz. fine.	\$	oz. fine.	\$	oz. fine.	\$	oz. fine.	\$
Oceania—								
Australia—								
New South Wales.....	7,496	154,956	8,455,581	4,534,813	12,500	258,398	8,500,000 ²	3,291,540
Northern Territory.....	44	910	—	—	44	910	—	—
Queensland.....	9,476	195,886	52,663	28,244	7,821	161,674	69,868	27,032
South Australia.....	1,009	20,858	1,206	647	1,311	27,101	1,058	410
Victoria.....	26,275	543,152	909	488	24,119	498,584	900 ²	348
West Australia.....	377,176	7,796,920	49,834	26,726	416,369	8,607,111	46,348	17,948
Tasmania.....	5,597	115,700	864,354	463,562	4,467	92,341	711,619	275,567
New Guinea—								
Australian.....	36,282	750,016	50,000 ³	26,815	30,270	625,730	50,000 ³	19,362
British (Papua).....	1,729	35,735	—	—	2,503	51,741	—	—
New Zealand.....	119,775	2,475,969	451,545	242,168	122,532	2,532,961	515,263	199,530
Totals.....	584,859	12,090,102	9,926,092	5,323,463	621,936	12,856,551	9,894,996	3,831,737
Africa—								
Algeria.....	—	—	166,955	89,540	—	—	166,955	64,652
Belgian Congo.....	172,838	3,572,879	12,000 ³	6,436	195,890	4,049,406	13,000 ³	5,034
Bechuanaland.....	1,725	35,659	162	87	1,997	41,282	360	139
British West Africa (Gold Coast, Ashanti, Nigeria, Sierra Leone).....	208,053	4,300,837	—	—	249,483	5,157,269	231	77
Egypt.....	64	1,323	—	—	546	11,287	—	—
Ethiopia (Abyssinia).....	4,501	93,044	—	—	4,501	93,044	—	—
French Equatorial Africa.....	—	—	—	—	1,929	39,876	—	—
French West Africa.....	4,147	85,726	—	—	5,427	112,177	—	—
Kenya Colony.....	845	17,468	131	70	1,789	36,982	155	60
Madagascar.....	6,012	124,279	—	—	7,234	149,540	—	—
Portuguese East Africa.....	375	7,752	54	29	176	3,638	38	15
Rhodesia—								
Northern.....	699	14,450	13,242	7,102	7,513	155,307	637	247
Southern.....	560,813	11,593,034	87,232	46,783	547,630	11,320,517	72,720	28,160
Southwest Africa.....	377	7,790	—	—	222	4,589	—	—
Swaziland.....	90	1,859	—	—	90	1,859	—	—
Sudan.....	2,459	50,825	—	—	954	19,723	—	—
Tanganyika.....	9,581	198,057	1,061	569	11,072	228,878	1,278	495
Transvaal, Cape Colony and Natal.....	10,412,326	215,241,881	1,031,779	553,353	10,716,351	221,526,636	1,050,038	406,617
Totals.....	11,384,905	235,346,863	1,312,616	703,969	11,750,875	242,912,134	1,305,381	505,496
Totals for World.....	19,599,152	493,103,911	260,970,629	139,963,839	29,169,355	416,751,523	248,139,133	96,089,395

¹Average price per fine ounce in London.

²Estimate based on United States imports of ore and bullion and interrogatory data.

³Estimate based on other years' production.

⁴Last year's figures.

⁵Subject to revision.

Subsection 2.—Silver.

Although no official statistics of the production of silver were published prior to 1887 the annual reports of the operating companies showed that from 1869 to 1885 about 4,000,000 oz. of silver, with a probable value of \$4,800,000, were produced in the Port Arthur district in Ontario. From 1887 to 1893 the annual production ranged in value between \$300,000 and \$400,000, and was derived chiefly from Ontario and Quebec. The next three years saw a rapid increase in production, due to the development of the silver-lead deposits of British Columbia and in 1896 a production worth over \$2,000,000 was recorded. From 1896 to 1905 annual production varied in value between \$2,000,000 and \$3,500,000, rising rapidly during the next five years to 32,869,264 fine oz. valued at \$17,580,455 in 1910, as a result of the discovery of the rich ores of the Cobalt district. Since then there has been a falling-off in quantity, but owing to the higher price of the metal the value of the annual production increased to a maximum of \$20,693,704 in 1918. The post-war depression and the decline in the value of silver caused a low value of production in 1921, but the industry recovered, and in 1930 production amounted to 26,443,823 fine oz.¹

The silver production of Canada is chiefly credited to the copper-gold-silver and the silver-lead-zinc ores of British Columbia, the silver-cobalt ores of northern Ontario and the silver-lead ores of the Yukon Territory. A certain amount of silver also occurs in combination with the gold ores of northern Ontario, the nickel ores of the Sudbury district and the copper-gold ores of Quebec and Manitoba.

During 1931 much interest was created by the reported discovery at Echo bay on Great Bear lake of mineral deposits in which high-grade native silver was associated with cobalt and radium-bearing ores.

Ontario.—The production of silver in Ontario in 1930 was 10,205,683 fine oz., valued at \$3,893,876, practically the whole of which was derived from the rich silver-bearing ores of the Cobalt district, but small quantities were obtained from the products of the nickel refineries and from gold bullion.

The Cobalt deposit was discovered in 1903, when the Timiskaming and Northern Ontario Railway was being built from North Bay to the head of lake Timiskaming. This was at Long lake, subsequently named "Cobalt lake" and the surrounding area became known as the Cobalt silver camp.

From 1904 to 1911 the output of silver increased rapidly year by year. In 1911 the Ontario production, largely from that camp, was 30,540,754 fine oz. Since that time the production has been declining, but the life of the camp has been prolonged by the production of cobalt in conjunction with silver and by improvements in the methods of extraction which have permitted the working of ores of a grade too low for profit by the former methods.

The Gowganda camp, which lies about 55 miles northwest of Cobalt, has been the source of much high-grade silver ore, mainly from the Miller Lake-O'Brien

¹Preliminary figures for 1931 are 20,557,216 fine oz. valued at \$6,140,739 compared with a production of 26,443,823 fine oz. valued at \$10,089,376 in 1930.

and Castle-Trethewey mines. This section was handicapped by its lack of facilities for transportation until a good road was completed from the railway at Elk Lake, on a branch line of the Timiskaming and Northern Ontario Railway. The South Lorrain camp, which lies about 18 miles to the southeast of Cobalt, on the shore of lake Timiskaming, has also produced large quantities of silver and cobalt. The Keeley mine was extremely rich, producing in 1924 nearly 2,000,000 fine oz. of silver.

Owing to the depletion of the ore bodies combined with the very low price of silver, operations were much curtailed in the Cobalt, Gowganda and South Lorrain camps in 1931.

British Columbia.—In 1926 for the first time since 1905 this province surpassed Ontario in silver production. Most of the British Columbia output of silver is now derived from the ores of the Sullivan mine near Kimberley and the Premier mine at Premier. Other sources of silver in this province are the silver-lead-zinc ores of East and West Kootenay, and the gold-copper ores of the Boundary and the Coast districts.

Comparing the quantity rather than the value, production in 1930 was the greatest on record and amounted to 11,825,930 fine oz., although this record was nearly equalled in 1927 with a production of 11,040,445 fine oz. Small amounts were recovered with alluvial gold and from gold bullion, but the Sullivan and Premier mines were responsible for the greater part of the output from this province. The Sullivan, primarily noted for its lead and zinc production, is the largest producer of silver in Canada. Silver was also recovered from the copper ores and concentrates which were exported for treatment in foreign smelters and from blister copper made at the Trail and Anyox smelters.

Yukon Territory.—The production of silver from the Yukon Territory in 1930 amounted to 3,746,326 fine oz., derived chiefly from the silver-lead ores exported from the Mayo district. For some years the difficulties and high cost of transportation involved in the export of these ores were serious obstacles to the successful operation of the mines. However, in the summer of 1925 the Treadwell Yukon Co. of Keno Hill, the largest producer in the district, completed a concentrating plant which has been operating steadily since that time. By eliminating much of the waste from the ores, concentration reduces the transportation costs. Ores from neighbouring mines are treated at this mill and this feature is of great assistance to the smaller operators in the district. The quantity of silver obtained from placer gold is gradually decreasing.

World Production of Silver.—The world production of silver was estimated at 248,139,133 fine oz. for 1930, an increase of 19 p.c. over the pre-war figure of 1913, given as 208,690,446 fine oz. The silver production of Canada in 1930 was 26,443,823¹ fine oz., or about 10.7 p.c. of the estimated world total for that year. This placed Canada third, next to Mexico and the United States. For the quantity and value of the world production in 1929 and 1930, see Table 10 of this chapter.

Statistics of the quantities and values of silver produced in Canada are given for the years since 1887 in Table 11, while statistics of the quantities and values produced in the various provinces are given for 1911 and subsequent years in Table 12.

¹ See footnote on p. 263.

11.—Quantities and Values of Silver Produced in Canada during the calendar years 1887-1931.

Year.	Quantity.	Value.	Year.	Quantity.	Value.	Year.	Quantity.	Value.
	oz. fine.	\$		oz. fine.	\$		oz. fine.	\$
1887.....	355,083	347,271	1902.....	4,291,317	2,238,351	1917.....	22,221,274	18,091,855
1888.....	437,232	410,998	1903.....	3,198,581	1,709,642	1918.....	21,383,979	20,693,704
1889.....	383,318	358,785	1904.....	3,577,526	2,047,095	1919.....	16,020,657	17,802,474
1890.....	400,687	419,118	1905.....	6,000,023	3,621,133	1920.....	13,330,357	13,450,330
1891.....	414,523	409,549	1906.....	8,473,379	5,659,455	1921.....	13,543,198	8,485,355
1892.....	310,651	272,130	1907.....	12,799,799	8,348,659	1922.....	18,626,439	12,576,758
1893.....	—	330,128	1908.....	22,106,233	11,686,239	1923.....	18,601,744	12,067,569
1894.....	847,697	534,049	1909.....	27,529,473	14,178,504	1924.....	19,736,323	13,180,113
1895.....	1,578,275	1,030,299	1910.....	32,869,264	17,580,455	1925.....	20,228,988	13,971,150
1896.....	3,205,343	2,149,503	1911.....	32,559,044	17,355,272	1926.....	22,371,924	13,894,552
1897.....	5,558,456	3,323,395	1912.....	31,955,560	19,440,165	1927.....	22,736,698	12,816,677
1898.....	4,452,333	2,593,929	1913.....	31,845,803	19,040,924	1928.....	21,936,407	12,761,725
1899.....	3,411,644	2,032,658	1914.....	28,449,821	15,593,631	1929.....	23,143,261	12,204,308
1900.....	4,468,225	2,740,362	1915.....	26,625,960	13,228,842	1930.....	26,443,823	10,089,376
1901.....	5,539,192	3,265,354	1916.....	25,459,741	16,717,121	1931 ¹	20,558,216	6,140,739

¹ Preliminary figures.

12.—Quantities and Values of Silver Produced in Canada, by Provinces, during the calendar years 1911-31.

NOTE.—For the years 1887 to 1910, see Canada Year Book, 1916-1917, p. 271. Nova Scotia, Manitoba and Alberta have also shown a small production in recent years, production during 1930 being shown in Table 5, pp. 253-5. Production in Manitoba has lately increased largely, amounting to 94,653 fine oz. in 1930 and 836,547 fine oz. in 1931.

Year.	Quebec.		Ontario.		British Columbia.		Yukon Territory.	
	oz. fine.	\$	oz. fine.	\$	oz. fine.	\$	oz. fine.	\$
1911.....	18,435	9,827	30,540,754	16,279,443	1,887,147	1,005,924	112,708	60,078
1912.....	9,465	5,758	29,214,025	17,772,352	2,651,002	1,612,737	81,068	49,318
1913.....	34,573	20,672	28,411,261	16,987,377	3,312,343	1,980,483	87,626	52,393
1914.....	57,737	31,646	25,139,214	13,779,055	3,159,897	1,731,971	92,973	50,959
1915.....	63,450	31,524	22,748,609	11,302,419	3,565,852	1,771,658	248,049	123,241
1916.....	98,610	64,748	21,608,158	14,188,133	3,392,872	2,227,794	360,101	236,446
1917.....	136,194	110,885	19,301,835	15,714,975	2,655,994	2,162,430	119,605	97,379
1918.....	178,675	172,907	17,198,737	16,643,562	3,921,336	3,794,755	71,915	69,594
1919.....	140,926	156,600	12,117,878	13,465,628	3,713,537	4,126,556	27,556	30,621
1920.....	61,003	61,552	9,907,626	9,996,795	3,327,028	3,356,971	19,190	19,363
1921.....	38,084	23,861	9,761,607	6,116,037	3,350,357	2,099,133	393,092	246,288
1922.....	—	—	10,811,903	7,300,305	7,150,937	4,828,384	663,493	447,997
1923.....	33,006	21,412	10,540,943	6,838,226	6,113,327	3,965,899	1,914,438	1,241,953
1924.....	83,814	55,972	11,272,567	7,527,933	8,153,003	5,444,657	226,755	151,429
1925.....	214,943	148,451	10,529,131	7,271,944	8,579,458	5,925,403	904,893	624,964
1926.....	375,986	233,513	9,274,965	5,760,402	10,625,816	6,599,376	2,095,027	1,301,159
1927.....	740,864	417,625	9,307,953	5,246,893	11,040,445	6,223,499	1,647,295	928,580
1928.....	908,959	528,796	7,242,601	4,213,456	10,943,367	6,366,413	2,839,633	1,651,985
1929.....	813,821	431,268	8,890,726	4,711,462	10,156,408	5,382,185	3,279,530	1,737,922
1930.....	571,164	217,922	10,205,683	3,893,876	11,825,930	4,512,065	3,746,326	1,429,373
1931 ¹	535,852	160,644	7,470,681	2,231,492	8,030,465	2,398,730	3,684,644	1,101,603

¹ Preliminary figures.

Subsection 3.—Copper.

The copper-mining industry has developed at a very rapid rate. A production of 3,505,000 lb. in 1886 had doubled 6 years later. By 1913, the output had increased over twenty-one fold, amounting to 76,976,925 lb. The extraordinary demand for war requirements resulted in an average production from 1916 to 1918 of 115,048,931 lb. In the post-war depression production dropped to less than 43,000,000 lb. in 1922, but recovered rapidly and in 1930 reached the record of 303,478,356 lb. The preliminary estimate for 1931, a year of general depression with a very low price ruling for copper, indicates a production of 293,154,655 lb. or only slightly below the record of 1930. This contrasts favourably with the production in the former depression year 1922 and indicates the expansion of the copper industry in Canada in the past decade. Even with the low prices prevailing in 1931, copper remained third in value among the minerals produced in Canada.

Copper discoveries made in 1929 and 1930 in the Coppermine River area between Great Bear lake and Coronation gulf were systematically prospected during 1931. One vein near Dismal lake was described as consisting of almost solid bornite (copper mineral), with widths of from 12 to 15 feet.

Quebec.—Until 1894, when Ontario took the lead, Quebec was the chief copper-producing province of Canada, the principal mines being the Eustis and Huntingdon properties in the Eastern Townships. These mines produced ores from which both copper and sulphur were recovered. There is still an annual production from this field. Recent developments in the Rouyn camp of northwestern Quebec, however, have resulted in a greatly increased production of copper since 1927. These deposits are associated with an easterly extension of formations similar to those of the Kirkland Lake area in Ontario. The first discoveries were located as gold prospects; the existence of large bodies of copper and zinc ores was subsequently proved and there is now a large production of copper as well as of gold. A branch line from the Canadian National Railways into the camp was completed during 1926, and subsequently a branch of the Timiskaming and Northern Ontario Railway was also extended to the camp. The construction of a copper smelter at the Noranda mine was completed and production begun in December, 1927. Hydro-electric power is supplied from power plants on the Quinze river. During 1931 the Canadian Copper Refiners, Ltd., commenced treating blister copper in their new plant located at Montreal East. This material came from the Noranda smelter and the smelter at Flin Flon, Manitoba.

Ontario.—The Sudbury deposits were first noted in 1856 but did not attract attention until 1883-4, during the period of the construction of the Canadian Pacific Railway, when a railway cutting was made through the small hill on which the Murray mine was afterwards located. During the first few years the deposits were developed for their copper content alone; not until 1887 was the presence of nickel determined and the true value of the ores made known. The nickel-copper ores of the Sudbury area are the source of nearly all the copper produced in Ontario. Under the International Nickel Co. of Canada, which is an amalgamation of the former International Nickel Co. and the Mond Nickel Co., an extensive program of expansion in the mining and metallurgical facilities of the district has been carried

out. The Frood and Frood Extension mines, where large masses of immensely rich ore have been opened up, were brought under one control. The ore supplies are chiefly drawn from the Frood, Creighton, Levack and Garson mines. Copper-nickel matte is produced at Coniston and in a large new smelter at Copper Cliff. Much of this matte goes to the nickel refinery at Port Colborne, the remainder being shipped either to the refinery at Swansea, Wales, or to the works at Huntington, West Virginia, where monel metal is made. A subsidiary company, the Ontario Refining Co. Ltd., has completed a copper refinery at Sudbury where refined copper is produced from the blister copper which is separated from the nickel at Port Colborne. The company also operates the Acton precious metals refinery situated near London, Eng., where it recovers, in a refined state, the gold, silver and platinum metals contained in the concentrates produced at both the Swansea and Port Colborne nickel refineries. The Falconbridge Nickel Mines, operating a mine in Falconbridge township, make a copper-nickel matte which is shipped to Norway for refining.

Manitoba.—During the four years 1917-20, with high prices prevailing for copper, ores containing 9,866,328 lb. of copper were shipped by the Mandy mine. Much development has been carried on in the Flin Flon district of Manitoba in the last ten years, and large bodies of ore have been proven on the Flin Flon property of the Hudson Bay Mining and Smelting Co. and the Sherritt-Gordon property. About 135 miles of branch line from the Hudson Bay Railway provide these properties with transportation facilities. A copper smelter and electrolytic zinc plant have been built at Flin Flon, while a large hydraulic development on the Churchill river provides the necessary power. During 1931 the Hudson Bay Mining and Smelting Co. continued to mine and treat copper-zinc-gold ores, producing electrolytic zinc and blister copper, the latter being shipped to the Canadian Copper Refiners, Ltd., Montreal, for the recovery of precious metals and production of electrolytic copper. At the Sherritt-Gordon mine the production of copper concentrates began in March, 1931. These concentrates are smelted at the Flin Flon smelter and the resulting blister copper is refined at Copper Cliff by the Ontario Refining Co. in their new electrolytic refinery.

British Columbia.—Until 1930, British Columbia had been the leading copper producer among the provinces for many years, but in that year it yielded first place to Ontario and in 1931 production further declined, owing to the closing of the Copper Mountain mine and the curtailed operations at Britannia as a result of the low price of copper. The production of the province in recent years has consisted of the blister copper produced at Anyox by the Granby Consolidated Mining Smelting and Power Co., Ltd., the blister copper and copper in copper sulphate made by the Consolidated Mining and Smelting Co., Ltd., at Trail, and the copper estimated as recoverable from the ores and concentrates exported. The principal copper-producing mines in British Columbia are the Britannia mine on Howe sound, which ships its concentrates to Tacoma and the Hidden Creek mine on Portland canal. The Copper Mountain mine which was operated by the Granby Consolidated is now closed down. The Hidden Creek ores are smelted at the Anyox smelter, the resulting blister copper being shipped to American or Canadian refineries.

13.—Quantities and Values of Copper Produced in Canada, by Provinces, calendar years 1911-31.

NOTE.—For the years 1886 to 1910, see Canada Year Book, 1916-17, p. 272. For production in Manitoba and Yukon between 1912 and 1920, included in totals, see 1926 Year Book, p. 345.

Year.	Quebec.		Ontario.		British Columbia.		Totals. ²	
	lb.	\$	lb.	\$	lb.	\$	lb.	\$
1911.....	2,436,190	301,503	17,932,263	2,219,297	35,279,558	4,366,198	55,048,011	6,886,998
1912.....	3,282,210	536,346	22,250,601	3,635,971	50,529,656	8,256,561	77,832,127	12,718,548
1913.....	3,455,887	527,679	25,885,929	3,952,522	45,791,579	6,991,916	76,976,925	11,753,606
1914.....	4,201,497	571,488	28,948,211	3,937,536	41,219,202	5,606,636	75,735,960	10,301,606
1915.....	4,197,482	725,115	39,361,464	6,799,693	56,692,988	9,793,714	100,785,150	17,410,635
1916.....	5,703,347	1,551,424	44,997,035	12,240,094	63,642,550	17,312,046	117,150,028	31,867,150
1917.....	5,015,560	1,363,229	42,867,774	11,651,461	57,730,959	15,691,275	109,227,332	29,687,989
1918.....	5,869,649	1,445,577	47,074,475	11,593,502	62,865,681	15,482,560	118,769,434	29,251,536
1919.....	2,691,695	503,105	24,346,623	4,550,627	44,502,079	8,317,884	75,053,581	14,028,265
1920.....	880,638	153,724	32,059,993	5,596,392	45,319,771	7,911,019	81,600,691	14,244,217
1921.....	352,308	44,045	12,821,385	1,602,930	34,447,127	4,306,580	47,620,820	5,953,555
1922.....	—	—	10,948,636	1,464,477	31,936,182	4,273,700	42,879,818	5,738,177
1923.....	—	—	31,656,800	4,565,227	55,224,737	7,963,959	86,881,537	12,529,186
1924.....	1,893,008	246,546	37,113,193	4,833,622	65,451,246	8,524,370	104,457,447	13,604,538
1925.....	2,510,141	352,474	39,718,777	5,577,311	69,221,600	9,720,097	111,450,518	15,649,882
1926.....	2,674,058	368,886	41,312,867	4,828,964	89,108,017	12,292,450	133,094,942	17,490,300
1927.....	3,119,848	403,084	45,341,295	4,946,533	91,686,297	11,845,870	140,147,440	17,195,487
1928.....	33,697,949	4,909,791	66,607,510	8,770,149	102,283,210	14,902,664	202,696,046	28,598,249
1929.....	55,337,169	10,019,901	88,879,853	14,622,572	103,903,738	18,772,778	248,120,760	43,415,251
1930.....	80,310,363	10,425,891	127,718,871	15,187,259	93,318,885	12,114,657	303,478,356	37,448,359
1931 ¹	69,225,430	5,794,169	112,892,826	9,097,203	65,214,967	5,458,493	293,154,655	24,185,119

¹ Preliminary figures. ² Totals include a small production by other provinces in certain years, those for 1930 being shown in Table 5, pp. 253-5. Preliminary estimate for Manitoba in 1931 is 45,821,432 bs. valued at \$3,835,254.

World Production of Copper.—World production of copper was estimated at 1,749,972 short tons in 1930, as compared with 2,104,110 tons in the preceding year. Canada had an output of 151,739 tons in 1930, producing about 8·7 p.c. of the world's estimated total and standing fourth among the nations.

14.—Copper Production of Seven Countries and of the World, 1913-30.¹

(In short tons of 2,000 pounds.)

Year.	United States.	Mexico.	Canada. ¹	Chile.	Peru.	Spain and Portugal.	Japan.	World Production.
1913.....	614,255	58,185	38,488	46,574	30,600	39,683	73,283	1,072,674
1914.....	579,133	40,043	37,868	49,221	29,853	29,652	77,650	1,021,233
1915.....	712,126	34,128	50,393	57,680	38,269	40,895	83,108	1,188,172
1916.....	971,123	60,751	53,575	78,559	47,472	39,021	110,900	1,533,294
1917.....	961,016	52,348	54,614	112,985	49,784	45,084	119,058	1,579,675
1918.....	968,687	83,233	59,335	117,851	48,944	50,596	99,583	1,569,523
1919.....	604,642	66,661	37,527	87,721	43,243	38,581	86,468	1,069,437
1920.....	635,248	49,866	40,800	109,075	36,356	25,353	74,727	1,082,652
1921.....	238,420	13,576	23,810	65,299	36,689	36,596	59,626	600,960
1922.....	511,970	29,842	21,440	142,830	40,133	40,234	59,663	995,045
1923.....	754,000	60,538	43,441	201,042	48,684	57,115	70,315	1,411,980
1924.....	819,000	49,150	52,229	209,855	38,495	60,713	69,378	1,522,394
1925.....	854,000	59,123	55,725	209,654	41,180	63,933	72,413	1,589,717
1926.....	878,000	62,303	66,547	223,015	46,703	63,933	72,277	1,637,489
1927.....	847,419	63,760	70,074	264,242	52,438	60,351	73,381	1,682,361
1928.....	935,199	72,579	101,348	319,549	57,830	59,427	72,796	1,891,610
1929.....	1,026,348	86,759	124,069	348,365	59,580	56,660	82,281	2,104,110
1930.....	1,710,690	75,365	151,739	244,683	52,476	46,475	87,924	2,749,972

¹ From the Year Book of the American Bureau of Metal Statistics, New York, except in the case of the production for Canada, where the official figures of the Dominion Bureau of Statistics are used.

Subsection 4.—Lead.

Lead is obtained in Canada largely from the deposits of British Columbia. From 88,665 lb. in 1891 the production advanced to over 39,000,000 lb. in 1897, an average increase of about 6,500,000 lb. per year. Owing to the low price of silver in 1898 and labour troubles in the Slocan in 1899, the output in the latter year fell to 21,900,000 lb., but rose to 63,200,000 lb. in 1900. This increase was

due to the development of two or three mines in the Fort Steele mining division, although all the lead-producing districts except Ainsworth showed a material increase in production. The output fell to 18,100,000 lb. in 1903, owing to the condition of the market affecting the production of the low-grade silver-lead ores of the East Kootenay district. An Act was passed in October, 1903, providing for the payment of bounties on lead contained in lead-bearing ores mined in Canada and, as a direct result of the bounty, the output increased to 56,900,000 lb. in 1905 but fell off gradually to 23,800,000 lb. in 1911. A steady improvement has since been experienced, a record total of 337,946,688 lb. being reached in 1928, while production in 1929 and 1930 continued at nearly the same high level. The preliminary estimate for 1931 is 267,339,203 lb.

British Columbia.—In the East Kootenay district the Consolidated Mining and Smelting Co. operates many important mines, the principal of which is the Sullivan lead-zinc mine near Kimberley. The ore averages about 11 p.c. lead 7 p.c. zinc and 5 ounces of silver to the ton. In the West Kootenay district the ores range from 7 p.c. to 75 p.c. of lead, with considerable values of silver. The Consolidated Mining and Smelting Co. has extended its facilities for mining, milling and smelting. This accounts to a considerable extent for the rapid growth in lead production during recent years. As a result of the low prices prevailing during 1931 for lead, zinc and silver many of the small silver-lead mines of the Slocan and the Monarch mine at Field remained idle throughout the year.

Ontario.—Lead mining in Ontario has been intimately associated with the successful operations of the Galletta mine and smelter, which closed down in the summer of 1931 owing to the low price of lead. Recent discoveries in the Sudbury Basin area have disclosed bodies of lead-zinc ore. These properties are under development but very little production has come from them as yet.

15.—Quantities and Values of Lead Produced from Canadian Ores, calendar years 1901-31.

NOTE.—For figures for the years 1887-1900, see 1929 Year Book, p. 367.

Year.	Quantity. ¹	Value.	Cents per Pound. ¹	Year.	Quantity. ¹	Value.	Cents per Pound. ¹
	lb.	\$			lb.	\$	
1901.....	51,900,958	2,249,387	4.334	1916.....	41,497,615	3,532,692	8.513
1902.....	22,956,381	934,095	4.069	1917.....	32,576,281	3,628,020	11.137
1903.....	18,139,283	768,562	4.237	1918.....	51,398,002	4,754,315	9.250
1904.....	37,531,244	1,617,221	4.369	1919.....	43,827,669	3,053,037	6.966
1905.....	56,864,915	2,676,632	4.707	1920.....	35,953,717	3,214,262	8.940
1906.....	54,608,217	3,089,187	5.657	1921.....	66,679,592	3,828,742	5.742
1907.....	47,738,703	2,542,086	5.325	1922.....	93,307,171	5,817,702	6.219
1908.....	43,195,733	1,814,221	4.200	1923.....	111,234,466	7,985,522	7.179
1909.....	45,857,424	1,692,139	3.690	1924.....	175,485,499	14,221,345	8.104
1910.....	32,987,508	1,216,249	3.687	1925.....	253,590,578	23,127,460	9.120
1911.....	23,784,969	827,717	3.480	1926.....	283,801,265	19,240,661	6.751
1912.....	35,763,476	1,597,554	4.467	1927.....	311,423,161	16,477,139	5.256
1913.....	37,662,703	1,754,705	4.659	1928.....	337,946,688	15,553,231	4.576
1914.....	36,337,765	1,627,568	4.479	1929.....	336,522,566	16,544,248	5.063
1915.....	46,816,450	2,593,721	5.600	1930.....	322,894,163	13,102,635	3.933
				1931 ²	267,339,203	7,261,063	2.710

¹ Previous to 1913 the figures reported show the metal content of the shipments and are somewhat in excess of the actual amount recovered. Since 1912 the data given represent the quantity of lead produced in Canada from domestic ores, together with the estimated lead recovery from lead ores and concentrates exported. From 1901 to 1908, average prices at New York; 1909 and 1910, average prices at Toronto; from 1911 to 1925, average prices at Montreal; from 1926 to 1931 the average yearly prices at London, Eng., were used in making up the values shown. ² Preliminary figures.

World Production.—The world production of lead in 1930 was about 1,834,730¹ short tons. The principal producers were the United States with 32.3 p.c., Mexico 15.1 p.c., Australia 10 p.c., Canada 9.1 p.c., Spain 7.3 p.c. and Germany 6.7 p.c.

¹ From the Year Book of the American Bureau of Metal Statistics.

Subsection 5.—Nickel.

With the exception of the nickel in the ores shipped from the Cobalt district, the Canadian production of nickel is derived entirely from the well-known nickel-copper deposits of the Sudbury district, Ontario. A brief description of the history and development of the nickel-copper mining industry will be found under copper in Subsection 3 of this section. From 830,477 lb. in 1889 the production of nickel increased continually to a war-time peak of 92,507,293 lb. in 1918. After a slump to 19,293,060 lb. and 17,597,123 lb. in 1921 and 1922 respectively there was an increase to 73,857,114 lb. in 1925. In 1928 production at 96,755,578 lb. exceeded that of the war year 1918, while 1929 established a record at 110,275,912 lb. Preliminary figures for production in 1931 are 65,666,320 lb.

In recent years the producing companies have instituted extensive researches to discover and encourage new peace-time uses for the metal. The success attending their efforts in that direction accounted very largely for the marked increase in production during the past few years. The automobile industry, electrical machinery, cooking utensils, new submarine cables and various nickel alloys all helped to absorb this increased production.

Sudbury.—The nickel-bearing rocks of the Sudbury district, with a width of about two and one-half miles, form a wide ellipse 36 miles long and 13 miles broad. The ores consist mainly of a mixture of pyrrhotite and chalcopyrite associated with norite, a basic intrusive rock. The nickel occurs in the pyrrhotite as pentlandite and varies somewhat in amount. The ore mined in the district varies considerably in richness, the average metal content being about 2 to 4 p.c. of nickel, 1 to 3 p.c. of copper and 45 p.c. iron, although portions of the new Frood deposit are much richer than this, especially in copper. Cobalt, gold, silver, platinum and palladium are nearly always present in very small quantities.

World Production.—The world production of nickel was about 59,360 short tons in 1930, of which output 87.4 p.c.¹ was Canadian in origin, while the remainder was derived from New Caledonia, India and Norway. The proved deposits of nickel ore in Canada are estimated to be sufficient to provide for the world's requirements for many years, while there are still large reserves undeveloped.

¹ These figures, taken from the Imperial Institute's Statistical Summary, include some nickel produced in the U.S. as a by-product from the electrolytic refining of Canadian copper; such nickel is not included in Table 16.

16.—Quantities and Values¹ of Nickel Produced in Canada during the calendar years 1901-31.

NOTE.—For figures for the years 1889-1900, see 1929 Year Book, p. 368.

Year.	Quantity.	Value.	Year.	Quantity.	Value.	Year.	Quantity.	Value.
	lb.	\$		lb.	\$		lb.	\$
1901.....	9,189,047	4,594,523	1911.....	34,098,744	10,229,623	1921.....	19,293,060	6,752,571
1902.....	10,693,410	5,025,903	1912.....	44,841,542	13,452,463	1922.....	17,597,123	6,158,993
1903.....	12,505,510	5,002,204	1913.....	49,676,772	14,903,032	1923.....	62,453,843	18,332,077
1904.....	10,547,883	4,219,153	1914.....	45,517,937	13,655,381	1924.....	69,536,350	12,126,739
1905.....	18,876,315	7,550,526	1915.....	68,308,657	20,492,597	1925.....	73,857,114	15,946,672
1906.....	21,490,955	8,948,834	1916.....	82,958,564	29,035,498	1926.....	65,714,294	14,374,163
1907.....	21,189,793	9,535,407	1917.....	82,330,280	33,732,112	1927.....	66,798,717	15,262,171
1908.....	19,143,111	8,231,538	1918.....	92,507,293	37,002,917	1928.....	96,755,578	22,318,907
1909.....	26,282,991	9,461,877	1919.....	44,544,883	17,817,953	1929.....	110,275,912	27,115,461
1910.....	37,271,033	11,181,310	1920.....	61,335,706	24,534,282	1930.....	103,768,857	24,455,133
						1931 ²	65,666,320	15,267,453

¹ A change in the method of computing the value of nickel produced accounts for the drop in value after 1923. ² Preliminary figures.

Subsection 6.—Cobalt.

The major portion of the world supply of cobalt has for almost two decades been derived from the silver-cobalt-nickel arsenides of the Cobalt district, the cobalt produced by refineries in southern Ontario having practically controlled world production until recent years. Large deposits of cobalt-bearing ores occur in central Africa, and the introduction into the world's markets of cobalt from this source has limited the market for the Canadian product to the extent that since 1926 Canadian production has dropped to about half of the world production.

The ore bodies at Cobalt, discovered in 1903, carry silver, cobalt, nickel, bismuth and arsenic. The Deloro smelter treats ores and residues and disposes of cobalt oxide, metallic cobalt and unseparated oxides of nickel and cobalt. The cobalt residues from the cyanide process are for the most part treated in Canada, though some are shipped abroad for treatment. The smelter output of cobalt, computed as the metallic cobalt and cobalt in oxides and salts, together with the cobalt recovered in ores exported from the mines, and including cobalt in speiss residues exported, amounted in 1930 to 694,163 lb. valued at \$1,144,007, as against 1,116,492 lb. valued at \$2,328,517 in 1925. Production in 1931 is estimated at 521,051 lb.

Subsection 7.—Zinc.

The zinc-mining industry of Canada has recently made rapid strides, largely on account of the application of improved metallurgical methods in the treatment of the lead-zinc ores of British Columbia. The metallic recoveries from Canadian ores were 267,643,505 lb. in 1930, as compared with 5,600,000 lb. in 1913. From an insignificant position in 1913 the country advanced to the fourth rank among the world's producers in 1930 with an output of about 8.0 p.c. of the world total. Production in 1931 is estimated at 237,245,451 lb.

British Columbia.—The principal zinc-mining regions are situated in the Kootenay district of British Columbia, where there are large deposits of silver-lead-zinc ore. The chief producing mine is the Sullivan near Kimberley, where the ore worked is a replacement deposit of considerable size. Other active mines are located in the Ainsworth and Slocan divisions of the West Kootenay district.

Other Provinces.—There has been considerable exploration and development of zinc-bearing deposits in Eastern Canada during recent years. The majority of these ores are of the replacement type and are often characterized by a close association of copper, zinc and gold. In northwestern Manitoba the Flin Flon and Sherritt-Gordon mines are operating on ores of this nature and refined zinc has been made at the Flin Flon smelter since the autumn of 1930. Some small shipments of zinc concentrates were made from the Errington mine of the Sudbury district and important deposits of zinciferous ore have been developed in the Rouyn district of Quebec.

The urgent demand for zinc during the Great War was largely responsible for energetic and aggressive action on the part of the Consolidated Mining and Smelting Co., owners of the Trail plant, in producing this metal; with this object in view, the erection of an electrolytic zinc refinery was commenced in 1915, rushed to completion and put into operation early in 1916. The company had then to turn its attention to solving the problem of recovering the values in the complex lead-zinc ores of the famous Sullivan mine. This was largely a problem of concentration

in order to separate the finely divided lead and zinc ores. From the opening of the zinc refinery in 1916 regular shipments of zinc ore were made from the Sullivan and other mines, but it was not until four years later that the problem of concentration was satisfactorily solved by the application of oil flotation methods. Since that time the production of lead, zinc and silver has rapidly increased. Recent enlargements to the plant at Trail have enabled further increases in production to be made.

17.—Production of Zinc in Canada, calendar years, 1911-31.

Year.	Quantity. ¹	Value.	Average Price per Pound.	Year.	Quantity. ¹	Value.	Average Price per Pound.
	lb.	\$	cts.		lb.	\$	cts.
1911.....	1,877,479	108,105	5.758	1921.....	53,089,356	2,471,310	4.655
1912.....	4,283,760	297,421	6.943	1922.....	56,290,000	3,217,536	5.716
1913.....	5,640,195	318,558	5.648	1923.....	60,416,240	3,991,701	6.607
1914.....	7,246,063	377,737	5.213	1924.....	98,909,077	6,274,791	6.344
1915.....	9,771,651	1,292,789	13.230	1925.....	109,268,511	8,328,446	7.622
1916.....	23,364,760	2,991,623	12.804	1926.....	149,938,105	11,110,413	7.410
1917.....	29,668,764	2,640,817	8.901	1927.....	165,495,525	10,250,793	6.194
1918.....	35,083,175	2,862,436	8.159	1928.....	184,647,374	10,143,050	5.493
1919.....	32,194,707	2,362,448	7.338	1929.....	197,267,087	10,626,778	5.387
1920.....	39,863,912	3,057,961	7.671	1930.....	267,643,505	9,635,166	3.600
				1931 ²	237,245,451	6,059,249	2.554

¹ Estimated foreign smelter recoveries and refined zinc made in Canada. ² Preliminary figures.

Subsection 8.—Iron.¹

The fact that iron ore is widely distributed in Canada has long been known and extensive deposits have been discovered from time to time. In Quebec there is a small annual production of titaniferous iron ore from a deposit near Baie St. Paul, but this material which is principally exported is used for its titanium content and not as a source of iron. There are millions of tons of iron magnetite sands, containing a high percentage of iron, along the north shore of the St. Lawrence in Saguenay county but these sands also contain a high percentage of titanium, rendering the briquetted ore unfavourable for blast-furnace treatment, so that efforts to utilize them have not proved successful. There are a number of deposits of bog iron ore in the St. Lawrence valley remarkably free from sulphur and phosphorus. These bog iron ores were successfully used in charcoal blast furnaces at Radnor Forges and Drummondville for many years. The known deposits of non-Bessemer iron ore in northern Ontario are very extensive. Millions of tons of red hæmatite were taken from the Helen mine in the Michipicoten district, while the Magpie mine in the same district produced siderite which was roasted before being shipped to the blast furnaces at Sault Ste. Marie owned by the Algoma Steel Co. In British Columbia, some development work has been done on iron deposits on Kamloops lake and on Texada island, but no iron-mining nor iron-smelting industry has become established in that province. Extensive deposits of hæmatite are known to exist on the Belcher islands in Hudson bay, but the ore is rather low in grade and its inaccessibility at the present time renders its development impracticable. Immense deposits of iron ores, large masses being high-grade, have been reported along the course of the Koksoak river, in northern Quebec, but these are so inaccessible that up to the present they have not even been systematically explored.

¹ A sketch of the iron and steel industry of Canada was given on pp. 452-456 of the 1922-1923 Year Book.

Hitherto there has been no great incentive for the development of the iron-mining industry in Canada, since there are easily accessible and abundant supplies in the higher-grade ores of Wabana, Newfoundland and of the Mesabi range in the State of Minnesota. The Wabana section of Newfoundland, containing one of the largest deposits of iron ore in the world, is operated by the British Empire Steel Corporation. The probable reserves in that area have been estimated at 3,635,000,000 tons, and the Wabana ore consists of an exceptionally high-grade hæmatite. Ore to the amount of 523,918 tons was shipped in 1930 to the blast furnaces of the company at Sydney, where the proximity of the adjacent coal field favours the economical production of pig iron and steel.

In Ontario, where the iron and steel industry has reached its largest development in Canada, cheap and high-grade supplies of iron ore are readily available from the Mesabi range of Minnesota, while coal supplies are drawn from the nearby coal fields of Pennsylvania.

From Table 18 following, it will be observed that the production of pig iron in Canada in 1929 exceeded that of any previous year, while the 1929 production of steel ingots and castings was exceeded only in the war years 1917 and 1918. Production has fallen off considerably since 1929 as a result of the reaction which set in during the latter part of that year. Ontario has been the leading producer of pig iron throughout the years recorded.

18.—Iron Ore Shipments and Production of Pig Iron and of Steel Ingots and Castings, calendar years 1909-31.

Year.	Ore Shipments from Canadian Mines.	Production of Pig Iron.						Production of Steel Ingots and Castings.
		Nova Scotia.		Ontario.		Totals. ¹		
		short tons.	\$	short tons.	\$	short tons.	\$	
1909.....	268,043	354,380	3,453,800	407,012	6,002,441	757,162	9,581,864	754,719
1910.....	259,418	350,287	4,203,444	447,273	6,956,923	800,797	11,245,622	822,284
1911.....	210,344	390,242	4,682,904	526,635	7,606,939	917,535	12,307,125	882,396
1912.....	215,883	424,994	6,374,910	589,593	8,176,089	1,014,587	14,550,999	957,681
1913.....	307,634	480,068	7,201,020	648,899	9,338,992	1,128,967	16,540,012	1,168,993
1914.....	244,854	227,052	2,951,676	556,112	7,051,180	783,164	10,002,856	823,641
1915.....	398,112	420,275	5,463,575	493,500	5,910,624	913,775	11,374,199	1,020,896
1916.....	275,176	470,055	7,050,825	699,202	9,700,073	1,169,257	16,750,898	1,428,249
1917.....	215,302	472,147	10,387,234	684,642	13,902,867	1,170,480	25,025,960	1,745,734
1918.....	211,608	415,870	10,451,400	747,650	21,324,857	1,195,551	23,495,171	1,873,708
1919.....	197,170	285,087	7,141,641	624,993	17,104,151	917,781	24,577,539	1,030,342
1920.....	129,072	332,493	7,687,614	749,068	22,252,062	1,090,396	30,319,024	1,232,697
1921.....	59,509	169,504	4,407,104	495,489	12,882,714	665,676	17,307,576	747,582
1922.....	17,971	135,261	3,139,994	293,662	6,493,513	428,923	9,633,507	544,020
1923.....	30,752	310,972	5,360,099	674,428	15,995,496	985,400	21,355,595	990,942
1924.....	1,480	177,078	3,842,593	415,971	9,525,736	593,049	13,368,329	723,773
1925.....	3,978 ⁴	226,010	4,402,674	413,247	8,040,015	639,257	12,442,689	842,803
1926.....	200 ⁴	280,266	6,165,852	567,929	10,495,122	848,195	16,660,974 ²	869,413
1927.....	2,029 ⁴	279,495	² 515,366	515,366	² —	794,861	² —	1,016,555
1928.....	2,244 ⁴	339,087	—	823,168	—	1,162,254	—	1,382,885
1929.....	2,748 ⁴	348,097	—	861,682	—	1,209,779	—	1,543,387
1930.....	412 ⁴	238,152	—	598,687	—	836,839	—	1,130,727
1931 ³	1,509 ⁴	113,560	—	356,883	—	470,443	—	753,857

¹ Including a small production from Quebec in certain years. ² Owing to the fact that much of the pig iron produced in Canada is used by the firms producing it for further manufacture in their own plants, no attempt has been made since 1926 to place a nominal value on such production. ³ Preliminary figures. ⁴ Titaniferous iron ore.

Section 5.—Production of Non-Metallic Minerals.

Subsection 1.—Fuels.

Coal.

The fuel situation in Canada is somewhat anomalous as, in spite of the enormous resources of coal in the country, about 50 p.c. of the consumption is imported from the United States. The Canadian coal areas are situated in the eastern and western provinces, while Ontario and Quebec are more easily and economically supplied with coal from the nearer coal fields of Pennsylvania and Ohio.¹ The anomaly of the situation is accentuated if we consider that Canada's present coal consumption is about 35,000,000 tons annually, as against reserves of 1,234,289,000,000 metric tons, sufficient for an unthinkable long period at the present rate of consumption.

Coal Resources.—A summary of the known coal resources of Canada was given on pages 391 to 394 of the 1922-23 Year Book; the accompanying table is reproduced as Table 19.

19.—Coal Resources of Canada, by Provinces and Classes of Coal.¹

(In metric tons of 2,204 pounds.)

Province or District.	Including Seams of 1 foot or over at Depths to 4,000 feet.					Including Seams of 2 feet and over, at Depths between 4,000 and 6,000 feet.	
	Actual Reserve.			Probable Reserve.		Probable Reserve.	
	Calculation Based on Actual Thickness and Extent.			Approximate Estimate.		Approximate Estimate.	
	Area, sq. miles.	Class of Coal. ²	Thousands of tons.	Area, sq. miles.	Thousands of tons.	Area, sq. miles.	Thousands of tons.
Nova Scotia.....	174	B	2,188,151	204	4,891,817	73	2,639,000
New Brunswick.....	—	B	—	121	151,000	—	—
Ontario ⁴	—	L	—	10	25,000	—	—
Manitoba.....	—	L	—	48	160,000	—	—
Saskatchewan.....	305	L	2,412,000	13,100	57,400,000	—	—
Alberta.....	25,300	L	382,500 000	56,375	491,271,000	203	12,700,000
		B	3,223,800		182,183,600		
		A & B	669,000		100,000		
British Columbia.....	439	A & B	23,771,242	6,196	44,907,700	11	2,160,000
		L	60,000		5,136,000		
Yukon.....	—	A & B	—	2,840	250,000	—	—
		L	—		4,690,000		
Northwest Territories.....	—	L	—	300	4,800,000	—	—
Arctic Islands.....	—	B	—	6,000	6,000,000	—	—
Totals.....	26,219	—	414,804,193²	85,194	801,986,117	287	17,499,000

¹ See "Coal, Coke and By-Products", published by the Imperial Mineral Resources Bureau.

² The coal of all classes mined in Alberta to 1911, amounting to 20,000,000 tons, has been deducted.

³ A=anthracite, B=Bituminous, L=Lignite.

⁴ Extensive investigation has been carried on by the Ontario authorities in connection with the lignite deposits of the Moose River basin, James Bay region, and drilling was carried on throughout 1930.

In view of the abnormal conditions prevailing in Canada during the later years of the war period, and also of the falling-off of production in the United States, the Government, on July 12, 1917, appointed a Fuel Controller for Canada, charging

¹ See map showing the sources of the coal supply of different parts of Canada, p. 386 of 1922-23 Year Book.

him in the first place with the duty of stimulating shipments to Canada, and eventually extending his powers until they included the work of controlling prices and directing coal-mining operations in Canada. The Fuel Controller concluded his duties in March, 1919, but in the summer of 1922 it was again found necessary to provide machinery to handle the administrative problems directly related to the tiding-over of a threatened fuel shortage. The Dominion Fuel Board, with the Deputy Minister of the Department of Mines as chairman, was constituted on Nov. 25, 1922, to meet the need for a standing organization definitely responsible for the systematic study of the fuel position of the Dominion. The Board issued an interim report in 1923 and has since issued, in co-operation with the Department of Mines, various studies on particular fuels, notably a report "Coke as a Household Fuel in Central Canada" published in 1925.

The coal production in 1930 amounted to 14,881,324 short tons, valued at \$52,849,748, or an average of \$3.55 per ton. This represented a decrease of 2,615,236 tons, or 15 p.c., as compared with the previous year. The decline in production was greatest in Alberta where it amounted to 19 p.c., while the decline in Nova Scotia was 11 p.c., and Nova Scotia was again the leading producer. The coal produced in Nova Scotia, New Brunswick, British Columbia and Yukon is all classed as bituminous, while Alberta produces bituminous, sub-bituminous and lignite, and Saskatchewan lignite only. The division of the 1930 production among these classes is given in Table 24. The quantity of coal mined annually in five provinces and the Yukon Territory from 1909 to 1931 is shown in Table 20.

20.—Production of Coal in Canada, by Provinces, calendar years 1909-31.

NOTE.—For annual production by provinces from 1874 to 1908, see 1911 Year Book, p. 419.

Year.	Nova Scotia.	New Brunswick.	Saskatchewan.	Alberta.	British Columbia.	Yukon Territory.	Canada.	
							Quantity.	Value.
	short tons.	short tons.	short tons.	short tons.	short tons.	short tons.	short tons.	\$
1909.....	5,652,089	49,029	192,125	1,994,741	2,606,127	7,364	10,501,475	24,781,236
1910.....	6,431,142	55,455	181,156	2,894,469	3,330,745	16,185	12,909,152	30,909,779
1911.....	7,004,420	55,781	206,779	1,511,036	2,542,532	2,840	11,323,388	26,467,646
1912.....	7,783,888	44,780	225,342	3,240,577	3,208,997	9,245	14,512,829	36,019,044
1913.....	7,980,073	70,311	212,897	4,014,755	2,714,420	19,722	15,012,178	37,334,940
1914.....	7,370,924	98,049	232,299	3,683,015	2,239,799	13,443	13,637,529	33,471,801
1915.....	7,463,370	127,391	240,107	3,360,818	2,065,613	9,724	13,267,023	32,111,182
1916.....	6,912,140	143,540	281,300	4,559,054	2,584,061	3,300	14,483,395	38,817,481
1917.....	6,327,091	189,095	355,445	4,736,368	2,433,888	4,872	14,046,759	43,199,831
1918.....	5,818,562	268,212	346,847	5,972,816	2,568,589	2,900	14,977,926	55,192,896
1919.....	5,790,196	166,377	379,347	4,933,660	2,649,516	-	13,919,096	55,622,070
1920.....	6,437,156	171,610	335,222	6,907,765	3,095,011	-	16,946,704	82,496,538
1921.....	5,734,928	187,192	335,632	5,909,217	2,890,291	233	15,057,493	72,451,656
1922.....	5,569,672	287,513	382,437	5,990,911	1,927,093	465	15,157,431	65,518,497
1923.....	6,597,838	276,617	438,100	6,854,397	2,323,306	313	16,990,571	72,058,986
1924.....	5,557,441	217,121	479,118	5,189,729	2,193,667	1,121	13,638,197	53,593,988
1925.....	3,842,978	208,012	471,965	5,869,031	2,742,252	730	13,134,968	49,261,951
1926.....	6,747,477	173,111	439,803	6,503,705	2,613,719	316	16,478,131	59,875,094
1927.....	7,071,876	203,950	470,216	6,934,162	2,746,243	414	17,426,861	61,867,463
1928.....	6,743,504	207,738	471,713	7,336,330	2,404,594	144	17,564,293	63,757,832
1929.....	7,056,133	218,706	580,189	7,150,693	2,890,378	458	17,496,557	63,065,170
1930.....	6,252,552	209,349	579,424	5,755,528	2,083,818	653	14,881,324	52,849,748
1931 ¹	4,952,182	181,327	657,723	4,562,004	1,876,476	904	12,230,616	41,178,107

¹ Preliminary figures.

The imports of anthracite, bituminous and lignite coal for the calendar years from 1911 to 1931 are given in Table 21, and the exports from 1911 to 1931 in Table 22.

21.—Imports into Canada of Anthracite, Bituminous and Lignite Coal for Home Consumption, calendar years 1911-31.

NOTE.—Anthracite dust is included under anthracite coal. For previous years, see 1911 Year Book, p. 420.

Year.	Anthracite.		Bituminous Coal.		Lignite Coal.		Totals.	
	short tons.	\$	short tons.	\$	short tons.	\$	short tons.	\$
1911.....	4,020,577	18,794,192	10,588,315	20,498,399	—	—	14,558,892	39,292,591
1912.....	4,184,017	20,080,388	10,411,793	19,397,649	—	—	14,595,810	39,478,037
1913.....	4,642,057	22,034,839	13,559,896	25,914,280	—	—	18,201,953	47,949,119
1914.....	4,435,010	21,241,924	10,286,047	18,559,574	—	—	14,721,057	39,801,498
1915.....	4,072,192	18,753,980	8,393,710	9,591,625	—	—	12,465,902	28,345,605
1916.....	4,570,815	22,216,363	13,009,788	16,073,303	—	—	17,580,603	38,289,666
1917.....	5,320,198	28,109,586	15,537,262	42,452,771	—	—	20,857,460	70,562,357
1918.....	4,785,160	26,007,888	16,893,427	45,642,696	—	—	21,678,587	71,650,584
1919.....	4,937,095	31,595,694	12,356,162	29,565,105	—	—	17,293,257	61,160,799
1920.....	4,982,313	36,773,351	13,861,229	61,260,247	—	—	18,843,542	98,033,598
1921.....	4,553,820	40,293,639	13,748,242	48,631,095	—	—	18,302,062	88,924,734
1922.....	2,705,752	23,795,143	10,317,773	37,387,285	—	—	13,023,525	61,182,428
1923.....	5,165,382	46,457,962	15,822,240	49,899,099	2,331	12,846	20,989,953	96,369,907
1924.....	4,152,558	37,280,910	12,546,214	29,628,643	26,007	117,955	16,724,779	67,027,508
1925.....	3,782,557	32,096,509	12,548,460	26,974,340	18,653	87,832	16,349,670	59,158,681
1926.....	4,192,419	34,202,166	12,376,606	25,511,932	10,423	45,567	16,579,448	59,759,665
1927.....	4,107,854	31,282,371	14,568,671	30,457,884	10,829	44,254	18,687,354	61,784,509
1928.....	3,748,816	27,680,018	13,445,945	26,608,427	10,780	44,247	17,205,541	54,332,692
1929.....	4,019,917	28,809,792	14,170,138	27,140,968	14,108	62,508	18,204,163	56,013,268
1930.....	4,256,090	30,098,910	14,497,955	26,522,765	18,676	72,691	18,772,721	56,694,366
1931 ¹	3,159,712	21,061,450	9,952,280	15,732,710	6,410	29,603	13,121,007	36,829,338

¹Preliminary figures.

22.—Exports of Coal, the Produce of Canada, calendar years 1911-31.

NOTE.—For previous years, see 1911 Year Book, p. 421.

Year.	Quantity.		Value.	Year.	Quantity.		Value.
	short tons.	\$			short tons.	\$	
1911.....	1,500,639	—	—	1922.....	1,818,582	11,159,060	—
1912.....	2,127,133	—	—	1923.....	1,654,406	10,661,399	—
1913.....	1,562,020	3,951,351	—	1924.....	773,246	4,836,848	—
1914.....	1,423,126	3,780,175	—	1925.....	785,910	4,329,173	—
1915.....	1,766,543	5,406,058	—	1926.....	1,028,200	5,739,436	—
1916.....	2,135,359	7,099,387	—	1927.....	1,113,330	5,890,259	—
1917.....	1,733,156	7,387,192	—	1928.....	863,941	4,469,999	—
1918.....	1,817,195	9,405,423	—	1929.....	842,972	4,375,328	—
1919.....	2,070,050	12,438,885	—	1930.....	624,512	3,345,998	—
1920.....	2,558,174	18,014,899	—	1931.....	359,853	1,909,922	—
1921.....	1,987,251	13,896,370	—				

Coal Consumption.—The sources of the coal consumed in Canada in the calendar years 1911-30 are shown in Table 23; detailed figures of coal *made available for consumption* during 1930 are given in Table 24; the difference between the totals of the two tables in the latest year is accounted for by the fact that coal received may be held in bond at Canadian ports and not “cleared for consumption” until required, while coal received in previous years may be taken out of bond (cleared for consumption) in a later year. During 1930 more coal was “cleared for consumption” than was received, stocks held in bond from previous years being drawn upon.

23.—Annual Consumption of Canadian and Imported Coal in Canada, 1911-30.

NOTE.—For the years 1886 to 1910, see 1921 Year Book, p. 354.

Calendar Year.	Canadian Coal. ¹		Imported Coal "Entered for Consumption".				Total.	Per capita.
			From U.S.A.	From Great Britain.	Total. ²			
	short tons.	p.c.	short tons.	short tons.	short tons.	p.c.	short tons.	short tons.
1911.....	9,822,749	40.5	14,510,129	48,963	14,424,949	59.5	24,247,698	3.365
1912.....	12,385,696	46.0	14,557,124	38,668	14,549,104	54.0	26,934,800	3.657
1913.....	13,450,158	42.6	18,145,769	37,825	18,132,387	57.4	31,582,545	4.196
1914.....	12,214,403	45.5	14,687,853	33,101	14,637,920	54.5	26,852,323	3.490
1915.....	11,500,480	48.1	12,450,796	15,098	12,406,212	51.9	23,906,692	3.041
1916.....	12,348,036	41.3	17,576,202	4,401	17,517,820	58.7	29,865,856	3.717
1917.....	12,313,603	37.2	20,848,009	9,451	20,810,132	62.8	33,123,735	4.040
1918.....	13,160,731	37.8	21,674,826	3,761	21,611,101	62.2	34,771,832	4.175
1919.....	11,611,168	40.3	17,292,913	344	17,236,269	59.7	28,847,437	3.402
1920.....	14,025,566	42.9	18,752,981	—	18,668,741	57.1	32,694,307	3.788
1921.....	12,715,734	41.1	18,300,081	1,591	18,258,387	58.9	30,974,121	3.524
1922.....	13,044,352	50.2	12,255,555	765,980	12,962,189	49.8	26,006,541	2.916
1923.....	15,070,962	41.8	20,417,239	572,570	20,967,971	58.2	36,038,933	4.000
1924.....	12,529,358	42.8	16,405,344	317,112	16,714,143	57.2	29,243,501	3.199
1925.....	12,125,290	42.6	15,744,957	604,117	16,331,971	57.4	28,457,261	3.162
1926.....	15,086,296	47.7	16,204,405	287,299	16,565,555	52.3	31,651,851	3.349
1927.....	15,944,983	46.0	17,769,963	907,220	18,680,832	54.0	34,625,815	3.594
1928.....	16,487,807	48.9	16,515,149	682,755	17,200,043	51.1	33,687,850	3.426
1929.....	16,387,461	47.4	17,243,047	843,502	18,186,727	52.6	34,574,188	3.448
1930.....	14,052,671	42.8	17,323,818	1,144,861	18,763,924	57.2	32,816,595	3.215

¹ The sum of Canadian coal mines sales, colliery consumption, coal supplied to employees, and coal used in making coke, etc., less the tonnage of coal exported.² Includes small tonnages from countries other than Great Britain and United States. Deductions have been made to take account of foreign coal re-exported from Canada.**24.—Coal Output, Exports, Receipts from Other Countries and Coal Made Available for Consumption in Canada during 1930 (short tons).**

NOTE.—For details by provinces, see the Bureau's report "Coal Statistics for Canada, 1930", p. 24.

Grade of Coal.	Canadian Coal.		Receipts from U.S.A.	Receipts from Great Britain.	Receipts from other Countries. ¹	Coal Available for Consumption.
	Output.	Exported.				
	tons.	tons.	tons.	tons.	tons.	tons.
Anthracite.....	—	—	2,955,954	996,127	304,009	4,256,090
Bituminous.....	10,824,839	594,490	13,199,076	146,199	33	23,575,657
Sub-bituminous.....	603,358	—	—	—	—	603,358
Lignite.....	3,453,127	30,022	18,676	—	—	3,441,781
Totals.....	14,881,324	624,512	16,173,706	1,142,326	304,042	31,876,886

¹ Includes 291,407 tons from Russia, 11,480 tons from Germany and 1,122 tons from French East Indies all anthracite, and 33 tons of bituminous coal from Newfoundland.

World Production.—The total known production of the world in 1930 amounted to about 1,387,339,000 long tons, towards which Canada contributed 13,286,896 long tons or about 1 p.c. Table 25 shows the production of the British Empire and the chief foreign countries in units of 1,000 long tons during each of the years from 1913 to 1930.

5.—Coal Production in the Principal Countries of the World, 1913-30. (000 long tons.)

BRITISH EMPIRE.

Calendar Year.	United Kingdom.	British India.	Canada.	Australia.	New Zealand.	Union of South Africa.
1913.....	287,431	16,208	13,404	12,418	1,888	9,583
1914.....	265,665	16,464	12,176	12,445	2,276	9,125
1915.....	253,208	17,104	11,846	11,415	2,209	8,977
1916.....	256,376	17,254	12,932	9,812	2,257	10,666
1917.....	248,500	18,213	12,542	10,232	2,068	11,444
1918.....	227,749	20,722	13,373	10,949	2,034	10,692
1919.....	229,780	22,628	12,131	10,525	1,848	9,162
1920.....	231,000	17,640	14,800	13,000	1,800	10,200
1921.....	163,251	19,303	13,444	12,878	1,809	10,645
1922.....	249,607	19,011	13,533	12,299	1,585	9,126
1923.....	276,001	19,658	15,170	12,634	1,970	11,075
1924.....	267,118	21,174	12,180	13,885	2,083	11,633
1925.....	243,176	20,904	11,723	14,503	2,115	12,127
1926.....	126,271	20,093	14,694	14,208	2,240	12,745
1927.....	251,232	22,082	15,560	14,978	2,367	12,382
1928.....	237,763	22,543	15,683	13,432	2,437	12,408
1929.....	257,907	23,419	15,622	12,106	2,536	12,813
1930.....	243,882	23,803	13,287	9,500	2,542	12,030

FOREIGN COUNTRIES.

Calendar Year.	Germany.	Belgium.	France.	Czechoslovakia.	Poland.	Netherlands.	Japan.	United States.
1913.....	274,264	22,474	40,188	—	—	1,843	20,973	508,893
1914.....	241,288	16,445	26,141	—	—	1,898	21,935	458,505
1915.....	230,889	13,950	19,219	—	—	2,226	20,161	474,660
1916.....	246,606	16,592	20,968	—	—	2,613	22,534	526,873
1917.....	258,639	14,691	28,427	—	—	3,001	25,958	581,609
1918.....	256,979	13,668	25,899	—	—	4,804	27,579	605,546
1919.....	199,160	18,190	19,645	27,000	—	5,271	30,000	487,638
1920.....	239,285	22,029	34,114	30,587	6,553	5,251	28,775	587,737
1921.....	255,148	21,401	37,916	32,174	7,717	3,978	25,944	452,139
1922.....	262,878	20,868	43,118	28,385	24,300	4,525	27,420	425,849
1923.....	178,191	22,554	46,981	27,380	35,686	5,249	28,633	587,407
1924.....	239,494	22,986	58,065	35,066	31,793	5,975	29,801	510,369
1925.....	267,970	22,726	60,034	30,663	28,677	6,943	31,121	519,527
1926.....	280,656	24,913	65,072	32,491	35,139	8,677	31,089	591,720
1927.....	299,511	27,130	65,402	33,106	37,560	9,374	33,177	535,625
1928.....	312,092	27,108	64,501	34,459	40,047	10,941	33,445	514,369
1929.....	332,560	26,514	67,474	38,465	45,686	11,552	34,479	541,232
1930.....	284,053	26,973	67,184	33,098	36,971	12,160	30,907	473,942

Natural Gas and Petroleum.

Natural Gas.—The production of natural gas has increased in value from \$1,346,471 in 1910 to \$10,289,985 in 1930. The producing wells in the east are in the counties of Welland, Haldimand, Norfolk, Kent, Essex, Lambton, Elgin and Bruce, in Ontario, and near Moncton, New Brunswick. The principal producing fields in Alberta are the Turner Valley (about 35 miles southwest of Calgary), Medicine Hat, Viking (about 80 miles southeast of Edmonton), Redcliff, Foremost (about 6 miles south and east of the town of Foremost), Bow Island and Wetaskiwin. Wainwright is supplied with gas from the Maple Leaf well in the Fabyan field; gas from the Barnwell and Bassano fields is also used. The quantity of gas sold or used in 1930 was 29,376,919 M cubic feet. Of the total value, Ontario was credited with about 50 p.c. See Table 5, pp. 253-5, for the production and value of natural gas produced in different provinces during 1930. Preliminary production figures for 1931 were 26,530,902 M cubic feet valued at \$9,144,204.

Petroleum.—The production of crude petroleum in Canada during 1930 was the greatest on record and amounted to 1,522,220 barrels, as compared with 1,117,368 barrels produced in 1929. Of this production 6,758 barrels came from New Brunswick, 117,302 from Ontario and 1,398,160 from Alberta. Alberta thus produced 92 p.c. of the total for Canada and accounted for the increased production in 1930. The Turner Valley field is the principal source of production in Alberta and embraces territory in which, beginning with the famous Royalite No. 4 well, a number of productive wells have recently been brought in. The wells in this field give a wet gas from which a very high grade of crude naphtha is separated. The producing horizons in Western Canada were formerly considered to be the Dakota and Kootenay shale formations of the Upper and Lower Cretaceous periods, but the Royalite No. 4 well proved that much better producing horizons existed in a lower formation in a brown porous dolomitic limestone below the Kootenay formation. The Redoubt field in southern Alberta near the International Boundary began producing some petroleum in 1929, while a small production has been obtained for a number of years in the Wainwright field, about 120 miles east of Edmonton, where the oil is heavy and of a lower grade. Altogether 89 oil wells were in operation in Alberta at the close of the year 1930, while drilling was in progress on 55 other wells. These drilling operations were distributed over the Turner Valley, Wainwright, Ribstone, Redoubt and other fields. No less than 190,125 feet of well-drilling was done in Alberta during 1930, while a further 35,472 feet of drilling was done for structural information.

The principal Ontario oil fields are situated in the southwestern peninsula between lake Huron and lake Erie. The oil districts are all situated within an area underlain by Devonian strata, and the petroleum is largely obtained from the same horizons in the Onondaga at varying depths in the different localities.

26.—Production of Crude Petroleum in Canada, calendar years 1886-1931.

Year.	Quantity.	Value.	Year.	Quantity.	Value.	Year.	Quantity.	Value.
	brl. ¹	\$		brl. ¹	\$		brl. ¹	\$
1886....	584,061	525,655	1901....	622,392	1,008,275	1916....	198,123	392,200
1887....	713,728	558,708	1902....	530,624	951,190	1917....	213,832	542,200
1888....	695,203	713,695	1903....	486,637	1,048,874	1918....	304,741	585,100
1889....	704,690	653,600	1904....	503,474	935,895	1919....	240,466	736,300
1890....	795,030	902,734	1905....	634,095	856,028	1920....	196,251	822,250
1891....	755,298	1,010,311	1906....	569,753	761,760	1921....	187,541	641,800
1892....	779,753	984,438	1907....	788,872	1,057,088	1922....	179,068	611,100
1893....	798,406	874,255	1908....	527,987	747,102	1923....	170,169	522,000
1894....	829,104	835,322	1909....	429,755	559,604	1924....	160,773	467,000
1895....	726,138	1,086,738	1910....	315,895	388,550	1925....	332,001	1,250,700
1896....	726,822	1,155,647	1911....	291,092	357,073	1926....	364,444	1,311,600
1897....	703,857	1,011,546	1912....	243,336	345,050	1927....	476,591	1,516,000
1898....	753,391	1,061,747	1913....	228,080	406,439	1928....	624,134	2,035,000
1899....	808,570	1,202,020	1914....	214,805	343,124	1929....	1,117,368	3,731,000
1900....	710,498	1,151,007	1915....	215,464	330,572	1930....	1,522,220	5,033,000
						1931 ²	1,537,000	4,260,000

¹The barrel=35 Imp. gal. ²Preliminary figures.

Subsection 2.—Other Non-Metallic Minerals.

Asbestos.—Canada produces more asbestos than any other country. The value of the annual output of asbestos has increased from less than \$25,000 in 1880 to \$14,792,201 in 1920 and \$13,172,581 in 1929. Owing to the depression

During the past two years production was curtailed during 1930 and 1931 as will be seen in Table 27. In 1930, world production amounted to about 379,000 long tons; of this tonnage Canada produced 251,019¹ long tons or 66·2 p.c.; Rhodesia, 33,720 tons or 8·90 p.c.; Union of South Africa, 23,083 tons or 6·09 p.c.; Russia, 56,000 tons or 14·78 p.c.; Cyprus, 7,256 tons or 1·91 p.c.; and the United States, 3,262 tons or 0·86 p.c.

Quebec.—The Eastern Townships has for many years been the most productive asbestos-mining area in the world. The most important deposits are those at Black lake, in Coleraine township; at Thetford and Robertsonville, in Thetford township; at East Broughton, in Broughton township, and at Danville, in Shipton township. The veins of chrysotile asbestos traverse the serpentine in all directions, and as a rule the fibre lies at right angles to the walls of the veins. The veins vary in width from $\frac{1}{4}$ inch to $\frac{1}{2}$ inch and occasionally fibre has been obtained several inches in length. The fibre is of good quality and well adapted for spinning. In the East Broughton deposits the serpentine occurs enclosed in a highly quartzose slate, probably of Precambrian age. In the Danville area, asbestos up to $\frac{1}{2}$ inch in length occurs abundantly, and the serpentine is impregnated with fine, short fibre, giving a first-class milling material.

Open-cut methods of mining are adopted almost invariably throughout the Canadian asbestos fields. Nearly all the mining companies have installed machinery for the crushing, fibricing, screening and grading of the mine product. In addition, 10 plants in Canada manufacture asbestos products, including the following commodities: asbestos paper and mill board; asbestos roofing of all kinds; asbestos rigid shingles; asbestos building materials; asbestos cellular and sponge-felted pipe insulation; insulating sheets and blocks; asbestos brake linings and clutch facings (woven on special looms); and asbestos packings for steam, oil and hydraulic operations.

27.—Production of Asbestos in Canada, calendar years 1909-31.

NOTE.—Figures for the years 1896-1908 are given in the 1911 Year Book, p. 424.

Year.	Production. ¹		Year.	Production. ¹	
	tons.	\$		tons.	\$
1909.....	87,300	2,301,775	1921.....	92,761	4,906,230
1910.....	102,215	2,573,603	1922.....	163,706	5,552,723
1911.....	127,414	2,943,108	1923.....	231,482	7,522,506
1912.....	136,301	3,137,279	1924.....	225,744	6,710,830
1913.....	161,086	3,849,925	1925.....	273,524	8,977,546
1914.....	117,573	2,909,806	1926.....	279,403	10,099,423
1915.....	136,842	3,574,985	1927.....	274,778	10,621,013
1916.....	154,149	5,228,869	1928.....	273,033	11,238,360
1917.....	153,781	7,230,383	1929.....	306,055	13,172,581
1918.....	158,259	8,970,797	1930.....	242,114	8,390,163
1919.....	159,236	10,975,369	1931 ²	164,297	4,812,886
1920.....	199,573	14,792,201			

¹The quantity and value of sand, gravel and rock separated as a by-product in milling asbestos are included in the totals for 1924 and previous years, but are excluded in later years.

²Preliminary figures.

Gypsum.—Many large deposits of gypsum occur throughout Canada, but the production is chiefly from Hants, Inverness and Victoria counties, Nova Scotia; Hillsborough, New Brunswick; Paris, Ontario; Gypsumville, Manitoba; and Falkland and Mayook, British Columbia. The Hillsborough deposit of gypsum in New Brunswick is of very high grade. Nearly 50 p.c. of Canada's production is exported

¹Figure from the Imperial Institute and represents total output, including sand.

in crude forms from the Nova Scotia deposits, which are conveniently situated for ocean shipping and account for about 75 p.c. of the total Canadian production. Beds of gypsum are associated with the lower Carboniferous limestones in New Brunswick and Nova Scotia. The mineral occurs in Ontario in the salt-bearing Salina formation of Upper Silurian age. Production during 1930 was 1,070,968 tons valued at \$2,818,788 and preliminary figures for 1931 are 854,329 tons valued at \$2,099,381. The production by provinces during 1930 is shown in Table 5, p. 254.

Salt.—Practically the whole of the production comes from wells located in southwestern Ontario, but the Malagash deposits in Nova Scotia show an increasing production in recent years and some shipments have been made from deposits near McMurray in Alberta. The deposits of Ontario occur in the Salina formation of Upper Silurian age, in which the beds of the mineral sometimes reach a thickness of 250 feet. The Canadian production during the present century has shown fairly steady growth from 59,428 tons in 1901 to 91,582 in 1911, 164,658 in 1921, 262,547 in 1926 and a high record of 330,264 tons in 1929. Since then production has declined to 271,695 tons valued at \$1,694,631 in 1930 (see Tables 2 and 5 of this chapter) and 259,047 tons according to the preliminary figures for 1931.

Section 6.—Production of Clay Products and Other Structural Materials.

Brick and Tile.—Although the brick and tile industry is established in every province of the Dominion production is naturally greatest near the chief centres of population, that is, in Ontario and Quebec. Here the widespread clays of glacial and post-glacial age that occur over considerable areas of the St. Lawrence Lowlands have furnished the materials for numerous brick and tile industries. Production in these industries fluctuates with building activity and reached its highest point in the year 1912. Since that time the gradual substitution of steel and reinforced concrete for brick construction has reduced the production of brick so that while the value of construction undertaken in both 1928 and 1929 is estimated to have exceeded that of 1912, the quantity of brick produced in each of the later years was only about half that of 1912. On the other hand, as will be seen from Table 22 below, the production and consumption of cement in 1929 greatly exceeded that of 1912 or 1913. The production of building brick of various types in 1929 and 1930 is shown in Table 2, while the production by provinces in 1930 is given in Table 5.

Cement.—The cement industry in Canada began with the manufacture of hydraulic or natural rock cement. The first production was probably at Hull, Quebec, between 1830 and 1840. The manufacture of Portland cement began about 1889. Owing to its superior qualities of uniformity and strength, it soon superseded the older product. Portland cement consists of an accurately proportioned mixture of lime, silica and alumina. The lime is usually furnished by limestone or marl, and the silica and alumina by clay or shale. The cement industry has naturally become established where these materials are situated with good facilities for a supply of fuel and for shipment of the product to the markets. The largest production is in Quebec and Ontario, although there are also active plants in Manitoba, Alberta and British Columbia. As may be seen from Table 28, while production was reduced in 1930, it still exceeded that of 1928. The industry thus shows a healthy recovery from the unfavourable conditions from which it suffered during the war and post-war periods. Whereas in pre-war years Canada was an importer of Portland cement she is now an exporter of this commodity.

3.—Production, Imports, Exports and Apparent Consumption of Portland Cement, by Quantities and Values, calendar years 1910-31.

Year.	Production. ²		Imports.		Exports. ³		Apparent Consumption.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	brl. ¹	\$	brl. ¹	\$	brl. ¹	\$	brl. ¹	\$
1910.....	4,753,975	6,412,215	349,415	468,395	—	12,914	5,103,285	6,867,696
1911.....	5,692,915	7,644,537	669,532	840,986	—	4,067	6,354,831	8,481,456
1912.....	7,132,732	9,106,556	1,434,413	1,969,529	—	2,436	8,567,145	11,073,649
1913.....	8,658,805	11,019,418	254,093	409,303	—	1,736	8,912,898	11,426,985
1914.....	7,172,480	9,187,924	98,022	147,158	—	2,223	7,270,502	9,332,859
1915.....	5,681,032	6,977,024	28,190	40,426	—	5,161	5,709,222	7,012,289
1916.....	5,369,560	6,547,728	20,596	31,621	—	2,424	5,390,156	6,576,925
1917.....	4,768,488	7,724,246	8,580	19,646	—	16,857	4,777,068	7,727,035
1918.....	3,591,481	7,076,503	5,913	19,851	—	13,752	3,597,894	7,082,602
1919.....	4,995,257	9,802,433	14,066	51,314	—	465,954	4,831,817	9,387,793
1920.....	6,651,980	14,798,070	32,963	112,466	—	2,193,626	5,849,276	12,716,910
1921.....	5,752,885	14,195,143	12,057	75,670	242,345	650,658	5,522,597	13,620,155
1922.....	6,943,972	15,438,481	30,914	83,037	425,137	699,738	6,549,749	14,821,780
1923.....	7,543,589	15,064,661	17,697	75,294	493,751	824,811	7,067,535	14,315,144
1924.....	7,498,624	13,398,411	27,672	69,320	153,520	213,845	7,237,776	13,253,886
1925.....	8,116,597	14,046,704	21,849	63,067	997,915	1,493,495	7,140,531	12,611,276
1926.....	8,707,021	13,013,283	21,114	77,866	285,932	358,231	8,442,203	12,732,918
1927.....	10,065,865	14,391,937	19,354	87,541	249,694	308,144	9,835,525	14,171,334
1928.....	11,023,928	16,739,163	34,047	146,164	267,325	340,624	10,790,650	16,544,703
1929.....	12,284,081	19,337,235	55,980	189,169	234,111	252,955	12,105,950	19,273,449
1930.....	11,032,538	17,713,067	143,436	569,848	198,736	212,071	10,977,238	18,070,844
1931 ⁴	10,161,658	15,826,243	38,392	143,491	114,064	124,267	10,085,986	15,845,467

¹The barrel of cement=350 lb. or 3½ cwt. ²"Production" as used here means quantity and value of sales. ³Quantities of exports were not recorded prior to 1921. ⁴Preliminary figures.

Stone, Sand and Gravel.—While the Mineral Branch of the Dominion Bureau of Statistics presents details of the production and industrial organization of the stone industry separately from that of sand and gravel, for the sake of brevity they are here discussed together. Production of these materials has increased greatly in recent years and the expansion in the stone industry has been chiefly in crushed stone. Thus a production of crushed stone in 1922 of 3,044,399 tons had increased in 1930 to 8,062,330 tons, while during the same period the production of sand and gravel increased from 11,666,374 tons to 28,547,511 tons, used chiefly for railway ballast, concrete and road work and building sand. The preliminary figures for 1931 for stone are 8,223,799 tons and for sand and gravel, 24,608,413 tons. Among the developments in Canada which appear to have resulted in the increased production of these materials may be mentioned: (1) the tendency in construction work for brick to be replaced by reinforced concrete, cement blocks, etc., as indicated above by a decline in brick production and an increase in that of cement; (2) the vast improvement during the past decade in the mileage and character of roads and highways in Canada; and (3) the improvement of railway road-beds, since, in addition to the ordinary requirements of gravel for mere maintenance of railways, lines are being better constructed to provide for heavier traffic and many of the most important stretches of railway are being re-ballasted with crushed stone.

The provincial distribution of the 1930 production of stone, sand and gravel is shown in Table 5, while the chief purposes for which these materials were produced are shown in Table 29. The production of sand and gravel came chiefly from Ontario with 42 p.c., Quebec with 23 p.c. and Saskatchewan with 13 p.c. Of the stone Ontario produced 54 p.c. and Quebec 38 p.c., Saskatchewan reported no stone production and Alberta less than 0.1 p.c. of the Dominion total.

29.—The Production of Sand, Gravel and Stone in Canada, showing the Principal Purposes, calendar years 1928-30.

Material and Purpose..	1928.		1929.		1930.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	tons.	\$	tons.	\$	tons.	\$
Sand—						
Moulding sand.....	42,060	46,404	64,457	50,308	43,642	31,768
For building, concrete, roads, etc....	2,380,366	829,659	2,709,289	1,181,261	3,443,185	1,399,041
Other.....	115,826	49,724	335,250	73,265	73,452	21,262
Sand and Gravel—						
For railway ballast.....	11,981,398	1,198,360	11,198,091	1,257,424	6,752,420	961,422
For concrete, roads, etc.....	12,530,310	3,061,139	12,555,094	4,087,132	17,409,590	5,569,262
Other.....	1,052,957	624,145	984,764	668,424	825,222	362,185
Totals, Sand and Gravel.....	28,102,917	5,809,431	27,846,945	7,317,814	28,547,511	8,344,938
Stone—						
Building.....	330,920	2,151,590	186,249	2,842,701	173,204	4,184,779
Monumental and ornamental.....	15,594	317,033	13,481	282,272	10,744	236,871
Limestone for flux.....	256,913	216,532	453,597	376,799	384,085	309,676
Limestone for pulp and paper, sugar and chemical factories.....	259,724	267,975	319,036	350,397	202,371	230,858
Rubble and riprap.....	620,211	613,342	947,073	841,404	1,018,351	706,449
Crushed.....	6,693,757	6,301,462	7,615,636	6,884,857	8,062,330	6,733,137
Totals, Stone¹.....	8,253,934	10,272,301	9,622,424	12,066,532	9,994,656²	13,037,209²

¹Totals include minor items not specified. ²Totals include 150 tons of slate valued at \$3,000.

The quantities and values of stone produced, given in the table above, represent only the production of those establishments which actually quarry their own stone and are exclusive of the products of the stone-dressing industry comprised of those establishments which buy rough stone and dress, polish or finish it; although frequently dressing operations are carried on right at the quarry and to that extent cannot be separated from the primary production. Of the total stone produced in 1930 over 77 p.c. was limestone, 18.5 p.c. granite, 4 p.c. sandstone and less than 0.3 p.c. marble. The average value per ton was \$1.05 for limestone, \$1.83 for granite, \$2.00 for sandstone and \$31.00 for marble. The marble was used chiefly for stucco dash, in pulp and paper mills and as dressed building stone. In the other three kinds of stone by far the largest part was used as crushed stone.

CHAPTER XIII.—WATER POWERS.

The fresh water area of Canada is officially estimated at 180,035 square miles—an area substantially larger than the whole land area of the British Isles, and certainly larger than the fresh water area of any other country in the world. As many parts of this well-watered country are situated at a considerable height above sea-level, there are great sources of potential energy in the rapids and waterfalls of the rivers conveying the water from these areas to the sea. Water power, therefore, is among the chief natural resources of Canada, and its development has in recent years contributed materially to swell the volume of Canadian production.

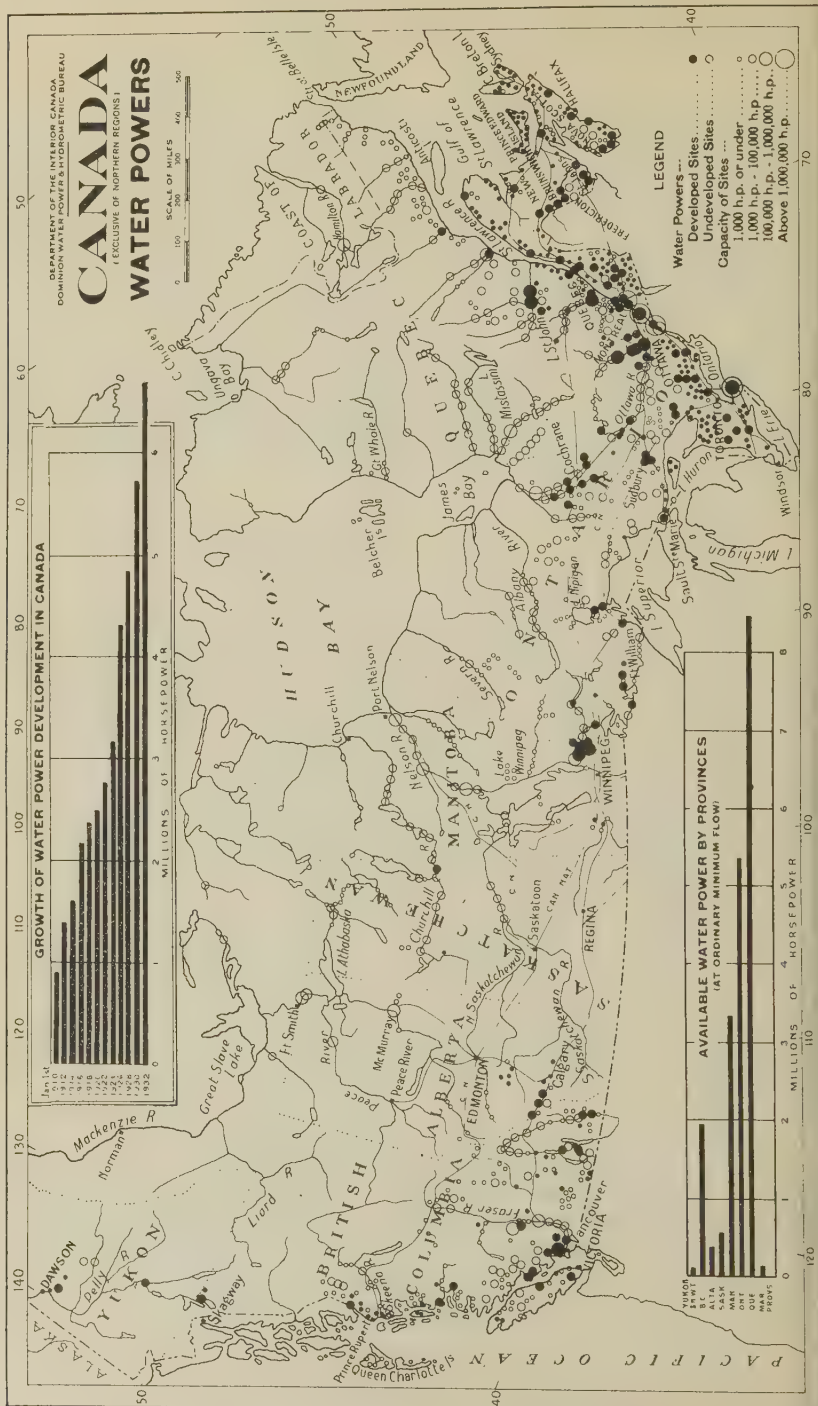
This Water Power chapter of the Year Book is divided into three sections: the first describes our water powers, their development and use in industry; the second deals with the Canadian central electric station industry, which is based almost wholly upon hydro-electric power; the third treats of the public ownership of hydro-electric power in Ontario, the chief manufacturing area, and also describes the policies of the Hydro-Electric or Power Commissions in other provinces.

Section 1.—The Water Powers of Canada.¹

The progress of civilization in its material aspects may be measured by the extent to which the resources of nature are adapted to the uses of mankind. These resources yield, in the first instance, raw materials such as coal and iron, cotton and lumber, hides and wool, which enter into so many things that they are spoken of as basic commodities. Energy, until comparatively recently, was largely secured by the combustion of coal and was therefore looked upon as a secondary product, whereas, when produced from falling water, it is just as much a primary product as coal itself. Energy now enters so largely into the scheme of modern existence that it is recognized as a basic commodity. Statistics concern themselves with kilowatt hours of electrical energy produced as being just as important as returns covering the production of pig iron, coal or cotton, and take note of undeveloped water power as being a source of raw material just as important as uncut forests or untapped oil fields. The relationship of power to production is of such vital consequence that every nation, besides considering its own power-producing resources, is deeply interested in the similar resources of other countries and the method of their development. To facilitate a study of world power conditions two Plenary World Power Conferences composed of representatives from 47 member states have already been held to consider the technical, economic and statistical aspects of power development. Arrangements for the future re-convening of such Conferences have been provided.

Canada is richly endowed with water-power resources and is in the forefront as regards their utilization. In fact, practically every large industrial centre throughout the Dominion is now served with hydro-electric energy and has within practical transmission distance substantial reserves for the future. About 95 p.c. of the total main plant equipment of the central electric stations of Canada is hydro

¹ By J. T. Johnston, Director, Dominion Water Power and Hydrometric Bureau, Department of the Interior.



power, and this equipment generates about 98 p.c. of the total electrical output. Indeed, water power is a mainspring of industrial progress in the central provinces, which have no indigenous coal supplies. Table 1 shows the provincial distribution of available and developed power in Canada at Jan. 1, 1932.

1.—Available and Developed Water Power in Canada, by Provinces, Jan. 1, 1932.

Province.	Available 24-hour Power at 80 p.c. Efficiency.		Turbine Installation.
	At Ordinary Minimum Flow.	At Ordinary Six Months' Flow.	
1	2	3	4
	h.p.	h.p.	h.p.
Prince Edward Island.....	3,000	5,300	2,439
Nova Scotia.....	20,800	128,300	111,999
New Brunswick.....	68,600	169,100	133,681
Quebec.....	8,459,000	13,064,000	3,100,330
Ontario.....	5,330,000	6,940,000	2,145,205
Manitoba.....	3,309,000	5,344,500	390,925
Saskatchewan.....	542,000	1,082,000	42,035
Alberta.....	390,000	1,049,500	70,532
British Columbia.....	1,931,000	5,103,500	655,992
Yukon and Northwest Territories.....	294,000	731,000	13,199
Totals.....	20,347,400	33,617,200	6,666,337

The figures in columns 2 and 3 of the above table represent 24-hour power and are based upon rapids, falls and power sites of which the actual existent drop, or the head of possible concentration, is definitely known or at least well established. Innumerable rapids and falls of greater or less power capacity, which are not as yet recorded, are scattered on rivers and streams from coast to coast and will only become available for tabulation as more detailed survey work is undertaken and completed. This is particularly true of the less explored northern districts. Nor is any consideration given to the power concentrations which are feasible on rivers and streams of gradual gradient, where economic heads may be created by the construction of power dams, excepting only at points where definite studies have been carried out and the results made matters of record.

The figures in column 4 represent the actual water wheels installed throughout the Dominion, but these figures should not be placed in direct comparison with the available power figures in columns 2 and 3 for the purpose of deducing therefrom the percentage of the available water-power resources developed to date. The actual water-wheel installation throughout the Dominion averages 30 p.c. greater than corresponding maximum available power figures calculated as in column 3. The figures quoted above, therefore, indicate that the "at present recorded water-power resources" of the Dominion will permit of a turbine installation of about 43,000,000 h.p. In other words, the present turbine installation represents only about 15½ p.c. of the present recorded water-power resources.

The above figures may be said to represent the minimum water-power possibilities of the Dominion. To illustrate, detailed analyses of the water-power resources of the provinces of New Brunswick and Nova Scotia have disclosed most

advantageous reservoir facilities for regulating stream flow. It is estimated that the two provinces possess within their respective borders 200,000 and 300,000 commercial h.p. (These figures provide for a diversity factor between installed power and consumers' demands.)

Recent Increase in Turbine Installation.—Table 2 shows the yearly increase in turbine installation by provinces from 1900 to 1931 inclusive. During the four years immediately preceding the war nearly 1,000,000 h.p. was installed, during the following eight years approximately the same installation was made, while in the latest nine years the gain was 3,657,992.

2.—Hydraulic Turbine Horse Power Installed in Canada, by Provinces, as at Dec. 31, 1900-31.

NOTE.—Turbine horse power in Saskatchewan is reported as 30 from 1910 to 1917, 35 from 1918 to 1929 and 42,035 in 1930 and 1931; installation in the Yukon was 5 from 1900 to 1906, 2,085 in 1907, 2,095 in 1908, 3,195 in 1909 and 1910, 13,195 from 1911 to 1913 and 13,199 from 1914 to 1931. These figures are included in the totals for Canada.

Year.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Alberta.	British Columbia.	Canada.
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
1900....	1,521	19,810	4,601	82,864	53,876	1,000	280	9,366	173,323
1901....	1,581	20,132	4,601	139,149	62,788	1,000	280	9,366	238,902
1902....	1,641	21,944	4,636	152,783	77,022	1,000	280	13,266	272,577
1903....	1,641	23,518	7,427	164,258	79,909	1,000	355	20,346	298,459
1904....	1,641	26,228	8,459	179,468	111,697	1,000	355	26,396	355,249
1905....	1,663	26,563	8,594	183,799	202,896	1,000	355	29,334	454,206
1906....	1,701	26,952	10,134	205,211	279,028	38,800	355	45,816	608,002
1907....	1,701	27,977	10,172	242,582	345,404	38,800	355	58,570	727,646
1908....	1,701	28,419	10,407	269,814	410,079	38,800	655	58,610	820,580
1909....	1,734	29,381	10,507	305,556	437,613	38,800	655	63,048	890,489
1910....	1,760	31,476	11,197	334,763	490,821	38,800	655	64,474	977,171
1911....	1,760	32,226	13,635	468,977	634,263	64,800	14,855	119,393	1,363,134
1912....	1,785	32,773	15,185	513,635	659,190	64,800	15,035	165,838	1,481,466
1913....	1,825	32,964	15,185	551,871	751,545	64,800	32,835	224,680	1,688,930
1914....	1,843	33,469	15,380	664,139	858,534	78,850	33,100	252,690	1,951,244
1915....	1,942	33,596	15,405	803,786	871,309	78,850	33,110	254,265	2,105,492
1916....	1,962	33,656	15,480	836,394	921,158	78,850	33,110	288,330	2,222,169
1917....	1,989	34,051	16,251	856,769	955,955	78,850	33,122	297,169	2,287,385
1918....	2,198	34,318	16,311	905,303	981,313	85,325	33,122	307,533	2,378,657
1919....	2,233	35,193	19,126	936,903	1,036,550	85,325	33,122	308,364	2,470,050
1920....	2,233	37,623	21,976	955,090	1,057,422	85,325	33,122	309,534	2,515,559
1921....	2,252	48,908	30,976	1,050,338	1,165,940	99,125	33,122	310,262	2,754,157
1922....	2,274	49,142	42,051	1,099,404	1,305,536	134,025	33,122	329,557	3,008,345
1923....	2,274	50,331	43,101	1,135,481	1,396,166	162,025	33,122	356,118	3,191,852
1924....	2,274	65,572	44,521	1,312,550	1,595,396	162,025	34,532	360,492	3,590,596
1925....	2,274	65,637	42,271	1,749,975	1,802,562	183,925	34,532	443,852	4,338,262
1926....	2,274	66,147	47,131	1,886,042	1,808,246	227,925	34,532	469,852	4,549,383
1927....	2,274	68,416	47,131	2,069,518	1,832,655	255,925	34,532	475,232	4,798,917
1928....	2,439	74,356	67,131	2,387,118	1,903,705	311,925	34,532	554,792	5,349,232
1929....	2,439	109,124	112,631	2,595,430	1,952,055	311,925	70,532	559,792	5,727,162
1930....	2,439	114,224	133,681	2,718,130	2,088,055	311,925	70,532	630,792	6,125,012
1931....	2,439	111,999	133,681	3,100,330	2,145,205	390,925	70,532	655,992	6,666,337

Distribution of Developed Water Power.—An analysis is made in Table 3 of the distribution of developed water power among central electric stations, pulp and paper-mills and other industries. The extent to which pulp and paper manufacturing is dependent on water power is clearly shown by the figures below, which indicate that 9.0 p.c. of the developed power is installed by pulp and paper companies, in comparison with 5.0 p.c. developed by all other industries (excluding central electric stations). The pulp and paper industry also purchases a large amount of power from the central electric stations, and over 90 p.c. of its machinery is driven by water power. The bulk of the water power used in other industries is developed by central electric stations, converted into electricity and delivered to the various industrial plants.

During the past four years, 1923 to 1931 inclusive, 1,867,420 h.p., or more than 28 p.c. of Canada's present total installation of 6,666,337 h.p., was installed. At the present time there are new developments in course of construction which will add over 1,400,000 h.p. to this total within the next two or three years, and there is every indication that the development of water power will make continued progress in the future.

3.—Developed Water Power in Canada: Distribution, by Provinces and Industries, and per 1,000 Population, as at Jan. 1, 1932.

NOTE.—The figures in this table are preliminary and are subject to correction when official data are complete.

Province.	Turbine Installation.				Population June 1, 1931.	Average Installation per 1,000 Population.
	In Central Electric Stations.	In Pulp and Paper Mills.	In Other Industries.	Total.		
1	2	3	4	5	6	7
	h.p.	h.p.	h.p.	h.p.	No.	h.p.
Prince Edward Island.....	376	—	2,063	2,439	88,038	28
Nova Scotia.....	84,202	12,378	15,419	111,999	512,846	218
New Brunswick.....	104,960	19,778	8,943	133,681	408,219	328
Quebec.....	2,742,425	222,160	135,745	3,100,330	2,874,255	1,078
Ontario.....	1,809,923	240,880	94,402	2,145,205	3,431,683	625
Manitoba.....	390,925	—	—	390,925	700,139	558
Saskatchewan.....	42,000	—	35	42,035	921,785	46
Alberta.....	70,320	—	212	70,532	731,605	96
British Columbia.....	489,360	105,800	60,832	655,992	694,263	945
Yukon and Northwest Ter- ritories.....	—	—	13,199	13,199	11,363	1,162
Totals.....	5,734,491	600,996	330,850	6,666,337	10,374,196	643

Column 2 includes only hydro-electric stations which develop power for sale.

Column 3 includes only water power *actually developed* by pulp and paper companies. In addition to this total, pulp and paper companies purchased from the hydro-power central electric stations, totalled in Column 2, electric energy estimated at about 993,000 h.p. making a total of about 1,594,000 h.p. actually developed for the manufacture of pulp and paper. A considerable amount of off-peak power and surplus power is also purchased for use in electric boilers.

Column 4 includes only water power *actually developed* in connection with industries other than the central electric station and pulp and paper industries. These industries also purchase power from the central electric stations totalled in Column 2.

Column 5 includes all water wheels and hydraulic turbines installed in Canada.

Column 6 shows the population of Canada at June 1, 1931, according to the final figures of the seventh decennial census taken by the Dominion Bureau of Statistics as of that date.

Column 7 averages the developed water power per 1,000 population.

Section 2.—Central Electric Stations.¹

The rapid growth of the central electric station industry has been stimulated by the large demand for power from the manufacturing industries, particularly pulp and paper plants, and from the domestic and commercial light customers, and also by the many improvements in generating and transmitting equipment and in electric appliances and motors. In Table 4 will be found statistics of the number of central electric stations, capital invested, revenue from sale of power, total horsepower, kilowatt hours generated and number of customers for the 14 years ended 1930, together with the number of persons employed and the amount expended for salaries and wages. According to *Power Resources of the World*, published by

¹ Revised by G. S. Wrong, B.Sc., Chief, Transportation and Public Utilities Branch, Dominion Bureau of Statistics. For a list of publications of this Branch see Chapter XXIX.

the London World Power Conference, 1929, the output of electric current in Canada for 1927 was the second largest in the world, ranking next to the United States. Canada's output in 1927 was larger than that of Germany, the next highest producer, by 2,105 million kilowatt hours. Based on preliminary figures from the larger central electric stations a total production of 16,610,000,000 kilowatt hours is estimated from all stations in 1931.

The rapid increase in the production of electric energy by central electric stations is largely due to the growth of the pulp and paper industry. In 1924 the motors in the pulp and paper-mills operated on power purchased from central electric stations had a rated capacity of 315,464 h.p., or 12.4 p.c. of all power equipment in manufacturing industries (the central electric station industry excluded) and in 1928 their rated capacity had more than doubled, increasing to 859,017 h.p. which was 42 p.c. of the total power for all manufacturing industries. Also the pulp and paper industry has been using an increasing amount of electricity for heating water, and practically all the electric energy is used 24 hours per day throughout the year as against an average working day for other manufactures of 8 to 9 hours. Although the low rates are important factors in increasing the average consumption per capita for all purposes to 1,750 kilowatt hours (excluding exports), which is more than twice the average in the United States and over six times the average in Great Britain, the large consumption by the pulp and paper industry, mines and electro-chemical industries is also an important factor.

There are some interesting factors affecting the relative per capita consumptions of electricity from central electric stations in Canada and the United States. An abundant supply of low priced coal in the industrial area of the United States, and no coal but an excellent supply of water power in the central provinces of Canada, tend to favour the generation of power in central stations in Canada more than in the United States. Also the pulp and paper industry is proportionately a smaller industry in the United States than in Canada; on a power basis, the proportions are approximately 7 p.c. and 42 p.c. respectively. While the average consumption for domestic use is more than twice as high in Canada as in the United States, the total consumption for domestic, or residential use is about 8 p.c. of the total output of central electric stations for Canada and 15 p.c. for the United States.

4.—Summary of Statistics of Central Electric Stations, calendar years 1917-30.

Year.	Number of Stations. ¹	Capital Invested.	Revenue from Sale of Power. ²	Total Horse Power. ³	Kilowatt Hours Generated.	Cus-tomers.	Persons Em-ployed.	Salaries and Wages.
		\$	\$	h.p.	(000).	No.	No.	\$
1917.....	666	356,004,168	—	1,844,571	—	—	8,847	7,777,715
1918.....	795	401,942,402	43,908,085	1,841,114	—	—	9,696	10,354,242
1919.....	805	416,512,010	47,933,490	1,907,135	5,497,204	—	9,656	11,487,132
1920.....	506	448,273,642	53,436,082	1,897,024	5,894,867	894,158	10,693	14,626,709
1921.....	510	484,669,451	58,271,622	1,977,857	5,614,132	973,212	10,714	15,234,678
1922.....	522	568,068,752	62,173,179	2,258,398	6,740,750	1,053,545	10,684	14,495,250
1923.....	532	581,780,611	67,496,893	2,423,845	8,099,192	1,112,547	11,094	14,784,038
1924.....	532	628,565,093	74,616,863	2,849,450	9,315,277	1,200,950	12,956	17,946,584
1925.....	563	726,721,087	79,341,584	3,569,527	10,110,459	1,279,731	13,263	18,755,907
1926.....	595	756,220,066	88,993,733	3,769,323	12,093,445	1,337,562	13,406	19,943,000
1927.....	629	866,825,285	104,033,297	4,173,349	14,549,099	1,381,966	14,708	22,946,315
1928.....	601	956,919,603	112,326,819	4,627,667	16,336,518	1,464,005	15,855	24,253,820
1929.....	587	1,055,731,532	122,883,446	4,925,555	17,961,840	1,555,883	16,164	24,831,821
1930.....	587	1,138,200,016	126,038,145	5,401,108	18,093,802	1,607,766	17,857	27,287,443

¹ Excluding non-generating stations in 1920 and subsequent years. ² Revised to exclude duplications.

³ Not including auxiliary plant equipment which is included in installation shown in central electric stations in Table 6 of the manufactures chapter, p. 335.

Equipment of Central Electric Stations.—The primary power equipment of all central electric stations aggregated 5,401,108 h.p. in 1930. This included water wheels and turbines, steam reciprocating engines and turbines and internal combustion engines. The hydraulic power machines greatly predominated over the other prime movers, providing 95 p.c. of the total capacity, with steam turbines, steam reciprocating engines and internal combustion engines making up the remaining 5 p.c. Not included in the above were steam engines and internal combustion engines with a capacity of 171,453 h.p., or 3.1 p.c. of the total power capacity, installed as auxiliary or standby equipment.

Central electric stations that have no water power, but are operated by steam and internal combustion engines, are on the whole small stations. Of the 82 steam reciprocating engines installed in central electric stations in 1930, only 12 in number, or about 15 p.c., were over 500 h.p. The steam turbines averaged over 3,290 h.p. with 12 units averaging 9,690 h.p., but there were only 63 steam turbines in the industry and these were confined to 28 stations, whereas the 791 water wheels and turbines averaged 6,500 h.p.

The majority of the fuel-using stations are primarily for lighting purposes, using the cheapest fuel procurable, generally local coal. In the Prairie Provinces bituminous and lignite coals are used for the steam engines, and gasolene, oil distillates and producer gas for the internal combustion engines.

Of the 376 internal combustion engines in central electric stations in 1930, 204, or 54 p.c., were in Saskatchewan, 59 in Alberta and 37 in Manitoba.

During 1930 the fuel stations produced 311,672,000 kilowatt hours at a cost for fuel of \$2,170,014, an average of 0.70 ct. per kilowatt hour. This production was, however, only 1.7 p.c. of the total output, hydro-electric stations producing about 98.3 p.c. The auxiliary equipment in central stations consumed fuel valued at \$424,865 and produced 30,891,000 k.w. hours.

5.—Equipment of Central Electric Stations, 1930.

NOTE.—K.V.A. means Kilo-volt-amperes.

Province.	Number of Power Plants.	Water Wheels and Turbines.			Steam Engines, Steam Turbines and Internal Combustion Engines.			Dynamos.		
		No.	Capacity.	Average Capacity.	No.	Capacity.	Average Capacity.	No.	Capacity.	Average Capacity.
			h. p.	h. p.		h. p.	h. p.		K.V.A.	K.V.A.
Prince Edward Island.....	11	9	464	51	8	3,413	427	16	3,297	206
Nova Scotia.....	53	54	80,192	1,485	41	38,397	937	95	96,945	1,020
New Brunswick.....	19	15	85,485	5,699	22	21,275	967	38	89,977	2,368
Quebec.....	98	252	2,316,007	9,191	8	5,786	723	264	1,997,795	7,567
Ontario.....	129	340	1,729,731	5,087	9	1,013	112	337	1,401,043	4,157
Manitoba.....	29	35	352,925	10,084	51	9,491	186	83	286,437	3,451
Saskatchewan.....	135	—	—	—	232	118,444	510	234	102,242	436
Alberta.....	55	18	69,520	3,862	82	56,480	689	95	102,600	1,080
British Columbia } Yukon.....	58	68	509,785	7,497	32	2,700	843	101	394,529	3,906
Totals.....	587	791	5,144,109	6,503	485	256,999	530	1,263	4,474,865	3,543
Auxiliary Plant Equipment....	57	—	—	—	122	171,453	1,405	111	145,678	1,312

Provincial Distribution of Electrical Energy.—The distribution by provinces of the electrical energy generated in central electric stations throughout Canada is shown in Table 6 for the calendar years 1926 to 1930. In the latter year about 88 p.c. of the total generated electrical energy was produced in the

leading industrial provinces of Ontario and Quebec. From Table 7 it is seen that the total of electric energy generated for export in the fiscal year ended Mar. 31, 1931, was 1,749,539,778 kilowatt hours; in the calendar year 1930 it amounted to 1,619,602,712 kilowatt hours, or 8.95 p.c. of the total amount generated in central electric stations.

6.—Electrical Energy Generated in Central Electric Stations, by Provinces, calendar years 1926-30.

Province.	Kilowatt hours ("000" omitted).				
	1926.	1927.	1928.	1929.	1930.
Prince Edward Island.....	1,804	2,017	2,289	2,726	3,591
Nova Scotia.....	78,149	83,695	97,448	107,467	223,421
New Brunswick.....	47,541	53,095	73,846	125,267	332,598
Quebec.....	4,916,438	6,523,605	7,682,425	8,664,334	8,822,901
Ontario.....	5,321,756	5,792,820	6,064,031	6,453,510	6,160,987
Manitoba.....	616,431	875,897	1,050,898	1,108,192	991,237
Saskatchewan.....	74,251	85,603	98,971	119,455	137,217
Alberta.....	141,759	156,066	181,272	205,351	204,076
British Columbia.....	885,903	967,895	1,074,818	1,176,213	1,217,772
Yukon.....	9,413	8,406	11,806		
Totals.....	12,093,445	14,549,099	16,337,804	17,962,515	18,093,802

Electric Light and Power.—Electric light and power companies are subject to registration and inspection under the Electricity Inspection Act, 1907 (6-7 Edw. VII, c. 14), and the production of electrical energy for export is regulated by the Electricity and Fluid Exportation Act, 1907 (6-7 Edw. VII, c. 16). Both Acts were administered by the Department of Inland Revenue until Sept. 1, 1918, when, by Order in Council of June 3, 1918, their administration was transferred to the Department of Trade and Commerce. (See cc. 54 and 55, R.S.C., 1927.)

Electrical energy produced for export increased from 538,331,425 kilowatt hours in the fiscal year ended Mar. 31, 1911, to 1,749,539,778 kilowatt hours in 1931. Figures by companies for the last four fiscal years are given in Table 7.

7.—Electrical Energy Generated or Produced for Export under Authority of the Electricity and Fluid Exportation Act, fiscal years ended Mar. 31, 1928-31.

Company.	1928.	1929.	1930.	1931.
	k.w. hours.	k.w. hours.	k.w. hours.	k.w. hours.
Hydro-Electric Power Commission of Ontario.....	815,324,200	797,626,900	710,680,300	857,358,400
Canadian Niagara Power Co., Niagara Falls, Ont.....	419,134,522	328,903,966	303,809,900	338,183,620
Ontario and Minnesota Power Co., Fort Frances, Ont.	15,544,100	17,264,700	13,244,300	9,883,606
Maine and New Brunswick Electric Power Co., Ltd., Aroostook Falls, N.B.....	9,025,832	10,164,151	11,169,874	12,922,510
British Columbia Electric Ry. Co., Vancouver, B.C.....	900,994	807,572	641,586	16,840
Western Power Co. of Canada, Vancouver, B.C.....	752,449	611,365	14,408	2,506
Southern Canada Power Co., Sherbrooke, Que.....	747,457	610,608	416,832	463,876
Cedars Rapids Mfg. and Power Co., Cedars Rapids, Que.....	411,764,072	443,604,762	448,396,462	521,117,775
West Kootenay Power and Light Co., Ltd., Ross- land, B.C.....	559,000	551,100	—	—
International Electric Co., Ltd., Stewart, B.C.....	97,799	69,330	—	—
Maritime Electric Co., Ltd., St. Stephen, N.B.....	597,982	765,522	869,296	561,000
Fraser Companies, Ltd.....	407,600	3,232,300	6,788,200	7,905,570
Northport Power and Light Co., Northport, Wash., U.S.A. ¹	—	—	317,128	268,587
Northern British Columbia Power Co., Prince Rupert, B.C.....	—	—	40,329	52,630
International Railway Co., Niagara Falls, Ont.....	—	—	717,774	718,470
Detroit and Windsor Subway Co.....	—	—	—	84,400
Totals.....	1,674,856,007	1,604,212,276	1,497,106,389	1,749,539,778

¹ Purchases from West Kootenay Power and Light Co., Ltd., Rossland, B.C.

Section 3.—Public Ownership of Hydro-Electric Power.

When, in the early years of the twentieth century, it became evident that the development of hydro-electric power would become a "key industry" in Canada, more especially in its coalless central provinces of Ontario and Quebec, a strong movement arose in favour of conserving the water powers of the country for the public benefit instead of allowing them to pass into the hands of private corporations. This "public ownership" movement developed especial strength in Ontario and finally led to the establishment of the Hydro-Electric Power Commission, the operating statistics of which are given below. In more recent years, Manitoba, Nova Scotia, New Brunswick and Saskatchewan have established Hydro-Electric Commissions on the model of the Ontario system. In Quebec and British Columbia, on the other hand, the development of hydro-electric power has been left in the hands of private corporations.

Subsection 1.—The Hydro-Electric Power Commission of Ontario.¹

The publicly-owned hydro-electrical undertaking of Ontario—known in the province as the "Hydro"—is an organization of a large number of partner municipalities, co-ordinated into groups or systems for securing common action with respect to power supplies. It had its beginning in 1903, when, as a result of public agitation to ensure the provision of adequate supplies of electrical power for distribution throughout the province at low cost, seven municipalities united under statutory authority in appointing an investigating commission to deal with power problems. This commission, known as the Ontario Power Commission, completed its work in 1906, and in the same year the Ontario Government, by special Act, created the present Hydro-Electric Power Commission of Ontario. The operations of the undertaking have grown rapidly and in 1930 electrical service was supplied by the Commission to about 668 municipalities comprising nearly all of the cities and towns of the province, as well as many small communities and rural areas.

The providing of the power, either by generation or purchase, its transformation, transmission and delivery to the individual municipalities and to large industrial consumers, and the operation of rural power districts are performed by the municipalities acting *collectively* through their agent and trustee, the Hydro-Electric Power Commission of Ontario. The local operations involved in the retail distribution of the electrical energy to the consumers within the limits of the various urban municipalities are performed by the municipalities *individually* through municipal utility commissions acting under the general supervision of the Hydro-Electric Power Commission.

Capital required for plant to generate and transmit power is lent by the province, and the municipalities are under contract to repay, over a period of 40 years, the moneys thus lent, with interest in full. The local distribution systems are financed individually by the issue of municipal debentures. Provision is made, in the rates charged to the ultimate consumers, for revenue with which to retire these bonds in from 20 to 30 years. The rates at which power is supplied by the Commission to the various municipalities vary with the amounts of power used, the distances from the sources of supply, and other factors. The basic principle underlying the operations of the undertaking is the provision of service "at cost". The rates charged by the municipal utilities for retail service are under the control of the Commission and are designed to ensure that each class of consumer bears its

¹ Revised by Arthur V. White, Consulting Engineer of the Hydro-Electric Power Commission of Ontario, Toronto, Ontario.

appropriate share of the expenses of the undertaking. Each class of consumer is charged with the cost of the service he receives as far as is practicable.

Power Supplies.—To meet the constantly expanding power demands of the undertaking the Commission has constructed its own generating plants, has made long-term contracts for the purchase of power from other organizations, and has acquired several existing privately-owned generating plants. Of the 37 hydro-electric power plants operated by the Commission in 1930, the largest is the Queenston-Chippawa development on the Niagara river which was constructed by the Commission and has a capacity of 550,000 h.p. Provision for the needs of the near future had been made at the end of 1930—including existing plants, plants under construction and power under contract for present and future delivery—up to an aggregate of about 2,000,000 h.p.

Hydro-Electric Power Commission Statistics.—The Canada Year Book of 1910 (p. xliii) described the turning on, Oct. 11, 1910, at Berlin (now Kitchener), Ontario, of electrical energy generated by Niagara falls. The small initial load of less than 1,000 h.p. increased rapidly and by 1915 had reached 100,000 h.p. In 1920 the total power distributed exceeded 350,000 h.p. and in 1930 it was over 1,260,000 h.p. Table 8 shows the growth of the co-operative municipal electrical undertaking of Ontario. It will be noted that the total capital of the undertaking, which includes investments of the Hydro-Electric Power Commission in power-producing and transmitting equipment, etc., and investments of the municipalities in distributing systems and other assets, aggregated in 1930 nearly \$360,000,000.

8.—Summary Statistics Representative of the Growth of the Ontario Hydro-Electric Power Commission's Undertaking, 1910-30.

Year.	Municipalities Served.	Customers Served.	Total Power Distributed by Commission.	Capital of Commission and Assets of Municipal Utilities.
	No.	No.	h.p.	\$
1910.....	10	—	2,500	2,521,000
1911.....	26	—	15,200	4,020,000
1912.....	36	—	31,000	4,576,000
1913.....	58	58,961	45,000	17,698,000
1914.....	95	96,744	77,000	25,023,000
1915.....	131	116,892	104,000	29,791,000
1916.....	191	155,052	167,000	34,917,000
1917.....	215	181,711	333,000	74,701,000
1918.....	236	194,382	316,000	87,812,000
1919.....	252	230,472	328,000	103,591,000
1920.....	266	261,582	355,000	128,334,000
1921.....	301	285,923	529,000	193,918,000
1922.....	348	364,988	605,000	220,594,000
1923.....	393	387,983	685,486	236,023,000
1924.....	418	415,922	691,198	254,189,000
1925.....	444	439,702	816,295	265,998,000
1926.....	501	448,241	928,032	274,972,000
1927.....	530	469,572	949,700	286,165,000
1928.....	560	522,770	1,032,500	297,204,000
1929.....	607	552,321	1,136,689	314,237,000
1930.....	668	586,267	1,263,512	359,648,000

Table 9 shows the growth in load in the various systems during the past five years.

9.—Distribution of Power to Systems of the Ontario Hydro-Electric Power Commission, 1926-30.

(20-minute peak horse-power—System, coincident peaks.)

System and District.	October, 1926.	October, 1927.	October, 1928.	October, 1929.	October, 1930.
	h.p.	h.p.	h.p.	h.p.	h.p.
Niagara system.....	800,000	810,322	879,357	949,732	1,000,670
Dominion Power and Transmission.....	—	—	—	—	58,579
Georgian Bay system.....	17,109	19,247	20,082	22,118	23,355
Eastern Ontario system ¹	—	—	—	62,035	88,678
Central Ontario district.....	41,166	43,458	47,493	1	1
St. Lawrence district.....	6,790	8,246	9,896	1	1
Rideau district.....	3,076	3,290	3,351	1	1
Ottawa district.....	16,354	18,480	20,241	22,079	1
Thunder Bay system.....	40,977	43,603	48,910	77,117	73,968
Northern Ontario system:—					
Nipissing district.....	2,560	3,054	3,170	3,599	3,745
Sudbury district.....	—	—	—	—	12,935
Patricia district.....	—	—	—	—	1,582
Totals.....	928,032	949,700	1,032,500	1,136,689	1,263,512

¹In 1929 the Eastern Ontario system was formed as a consolidation of the Central Ontario and Trent, the St. Lawrence and the Rideau systems, and in 1930, the Ottawa and the Madawaska systems were also included. These former systems are now called districts.

The initial capital expenditure to serve some twelve municipalities amounted to about \$3,600,000. Table 10 shows for the past five years the capital investment in the respective systems of the undertaking and in the associated municipal undertakings.

10.—Capital Investments in Ontario's Hydro Undertakings, 1926-30.

Item.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$
Investments by Commission on behalf of co-operating municipalities, in generating plants and transmission systems, etc.—					
Niagara system.....	155,769,666	157,273,133	161,994,024	168,004,159	176,172,588
Dominion Power and Transmission	—	—	—	—	21,489,435
Chats Falls development.....	—	—	—	—	2,137,230
Georgian Bay system.....	5,259,250	5,315,626	5,546,340	6,310,035	7,940,667
Eastern Ontario system ¹	—	—	—	18,045,388	20,917,183
Transmission lines ²	—	—	895,237	—	—
Central Ontario district.....	14,067,963	14,260,456	14,157,631	1	1
St. Lawrence district.....	1,062,445	1,328,384	1,852,166	1	1
Rideau district.....	1,161,658	1,173,928	1,189,021	1	1
Ottawa district.....	46,843	143,441	201,331	537,194	1
Madawaska district.....	—	—	—	1,864,647	1
Thunder Bay system.....	12,724,571	14,144,680	14,332,937	15,325,411	17,645,796
Northern Ontario system ³	—	—	—	1,565,754	3,297,543
Nipissing district ⁴	1,036,001	1,054,488	1,151,371	4	4
Hydro-electric railways.....	9,389,900	6,696,523	6,989,347	7,259,997	7,340,565
Office and service buildings, construction plant, inventories, etc.....	2,661,806	2,974,120	2,908,076	3,170,051	3,652,772
Miscellaneous, engineering, storage, etc.....	262,655	7,288	—	—	—
Total Investments by Commission	203,442,758	204,372,067	211,217,481	222,082,637	260,593,779
Investments by municipalities in distributing systems and other assets (exclusive of sinking fund equity in H.E.P.C. systems, included above), all systems..	74,602,541	81,792,678	85,986,288	92,154,281	99,054,262
Grand Totals.....	278,135,299	286,164,745	297,203,769	314,236,918	359,648,041

¹In 1929, the Eastern Ontario system was formed as a consolidation of the Central Ontario and Trent, the St. Lawrence and the Rideau systems, and in 1930, the Ottawa and the Madawaska systems were also included. These former systems are now called districts. ²Subsequently included in Eastern Ontario system. ³The Northern Ontario system includes the Nipissing district, the Sudbury district and the Patricia district. ⁴The Nipissing district of the Northern Ontario system is, for purposes of certain financial administration, associated with the districts of the Eastern Ontario system.

The total reserves of the Commission and of the municipal electric utilities for sinking fund, renewals, contingencies and insurance purposes are shown in Table 11.

11.—Accumulated Reserves of the Ontario Hydro-Electric Power Commission and of the Local Electric Utilities of the Co-operating Municipalities, 1926-30.

Item.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$
Niagara system.....	18,625,080	23,673,223	28,989,376	35,940,823	43,069,032
Georgian Bay system.....	1,163,190	1,379,191	1,417,747	1,655,366	1,889,782
Eastern Ontario system ¹	—	—	—	3,447,044	4,123,718
Central Ontario district.....	2,134,172	2,105,281	2,539,212	1	1
St. Lawrence district.....	287,539	333,996	379,505	1	1
Rideau district.....	154,504	212,548	258,861	1	1
Ottawa district.....	7,305	12,556	14,498	24,734	1
Thunder Bay system.....	315,590	612,548	954,006	1,566,521	2,165,992
Northern Ontario system ²	—	—	—	—	10,583
Nipissing district ⁴	106,744	145,693	182,416	4	4
Bonnechère storage.....	7,217	11,201	13,775	16,451	19,234
Service buildings and equipment.....	433,473	465,903	499,138	542,755	570,210
Hydro-electric railways.....	—	156,332	140,804	133,298	102,952
Insurance—Workmen's Compensation and staff pension insurance.....	1,516,597	1,820,546	2,156,246	2,554,759	2,993,347
Total reserves of the Commission.....	24,751,411	30,929,018	37,545,584	45,881,750	54,944,850
Total reserves—including surplus—of municipal electric utilities.....	30,719,802	34,505,522	38,735,346	44,058,573	48,912,833
Totals, Commission and Municipal Reserves.....	55,471,213	65,434,540	76,280,930	89,940,324	103,857,683

For footnotes see footnotes to Table 10.

Statistics of Urban Municipal Electric Utilities of Ontario Supplied by the Commission.—The Commission exercises supervisory functions over the electrical utilities owned and operated by the partner municipalities, and has introduced a uniform accounting system which enables the Commission to present in its Annual Reports consolidated balance sheets and operating reports regarding these utilities. These statistics relate to about 90 p.c. of the retail customers supplied by the undertaking. Summary statistics regarding service to rural consumers are given in Table 14 p. 301.

Statistics of the assets and liabilities of the electric departments of urban municipalities served by the Hydro-Electric Power Commission are given in Table 12. These show, for 1930, total assets of \$116,400,635, as compared with liabilities of \$50,141,429. Of the difference, \$31,806,416 is allotted as reserves, leaving a surplus of \$34,452,790. The item "Equity in Hydro Systems", listed under both assets and reserves, relates to the sinking fund equity acquired by the individual municipalities in their collective generation and transmission undertaking administered by the Hydro-Electric Power Commission. All other items relate to the local distributing systems operated individually by the urban municipalities which are partners in the Hydro undertaking. In computing the percentage of net debt to total assets the equity in Hydro systems is not taken into account. It will be noted that whereas between 1926 and 1930 total assets have increased by \$33,661,226 total liabilities have increased by only \$6,168,690.

12.—Consolidated Statement of Assets, Liabilities, Reserves and Surplus of Electric Departments of Urban Municipalities Served by the Hydro-Electric Power Commission of Ontario, calendar years 1926-30.

Item,	1926.	1927.	1928.	1929.	1930.
Number of Municipalities Included.....	251	252	256	260	267
	\$	\$	\$	\$	\$
Assets—Plant—					
Lands and buildings.....	6,111,163	6,486,427	7,024,647	7,469,451	7,936,974
Substation equipment.....	9,505,502	15,088,905	16,866,186	18,102,792	19,485,056
Distribution system—overhead.....	18,654,240	16,689,462	17,688,051	18,108,017	19,220,327
Distribution system—underground.....	3,689,570	3,278,383	3,559,288	4,823,370	4,932,189
Line transformers.....	5,538,605	5,985,521	6,549,674	7,312,742	7,953,090
Meters.....	5,963,162	6,346,661	6,839,803	7,405,479	7,840,948
Street lighting equipment—regular.....	1,309,608	1,399,314	1,486,646	1,594,183	1,780,786
Street lighting equipment—ornamental.....	1,103,660	1,184,036	1,203,707	1,458,350	1,520,891
Miscellaneous construction expenses.....	3,456,778	3,360,671	3,394,627	3,483,488	3,996,748
Steam or hydraulic plant.....	628,910	607,320	619,881	489,097	139,587
Old plant.....	4,655,423	5,095,556	5,032,089	5,063,379	5,322,690
Totals, Plant.....	60,616,621	65,522,256	70,264,599	75,340,348	80,129,286
Other Assets—					
Bank and cash balance.....	2,136,291	3,014,832	1,342,367	858,734	2,722,250
Securities and investments.....	1,400,316	1,696,238	1,837,140	2,001,089	1,909,439
Accounts receivable.....	3,508,818	3,715,771	4,097,446	4,683,202	4,481,007
Inventories.....	1,397,668	1,412,729	1,220,186	1,365,033	1,242,995
Sinking fund on local debentures.....	5,599,675	6,398,910	7,071,274	7,753,614	8,396,256
Equity in Hydro systems.....	8,046,868	10,143,206	12,326,098	14,754,865	17,346,372
Other assets.....	33,152	31,942	153,275	152,261	173,030
Totals, Assets.....	82,739,409	91,935,884	98,312,385	106,909,146	116,400,635
Liabilities—					
Debenture balance.....	39,602,583	42,891,362	42,597,176	42,930,128	45,091,808
Accounts payable.....	3,118,685	2,988,622	3,074,634	3,132,145	3,001,186
Bank overdraft.....	163,726	252,362	253,144	412,057	405,663
Other liabilities.....	1,087,795	1,154,810	1,258,610	1,621,378	1,642,772
Totals, Liabilities.....	43,972,739	47,287,156	47,183,564	48,095,708	50,141,429
Reserves—					
For equity in H.E.P.C. system.....	8,046,869	10,143,206	12,326,097	14,754,865	17,346,372
For depreciation.....	9,360,322	10,319,889	11,140,796	11,911,155	12,885,388
Other reserves.....	947,970	1,002,917	1,117,258	1,437,371	1,574,656
Totals, Reserves.....	18,355,161	21,466,012	24,584,151	28,103,391	31,806,416
Surplus—					
Debentures paid.....	5,493,880	6,648,767	7,928,907	9,194,253	10,728,279
Local sinking fund.....	5,599,675	6,398,910	7,071,274	7,962,121	8,396,256
Additional operating surplus.....	9,317,954	10,135,039	11,544,489	13,553,673	15,328,255
Totals, Surplus.....	29,411,509	23,182,716	26,544,670	30,710,047	34,452,790
Total Liabilities, Reserves and Surplus.....	82,739,409	91,935,884	98,312,385	106,909,146	116,400,635
Percentages of net debt to total assets....	55.5	54.2	50.8	47.8	46.0

In Table 13 will be found details of the earnings and expenses of the electrical distributing systems of the urban municipalities served by the Hydro-Electric Power Commission, for the five years from 1926 to 1930. The first item of expense "power purchased" is the municipalities' share of the Commission's costs for generation, purchase, and transmission of the power in bulk; all other expenses and earnings relate to local distribution within the municipalities. A very rapid growth will be noted.

13.—Statement of Earnings and Expenses of Electric Departments of Urban Municipalities Served by the Ontario Hydro-Electric Power Commission for the calendar years 1926-30.

Item.	1926.	1927.	1928.	1929.	1930.
Number of Municipalities Included.....	248	251	255	259	267
	\$	\$	\$	\$	\$
Earnings—					
Domestic service.....	7,372,603	8,189,867	8,925,051	9,873,682	10,542,904
Commercial light service.....	4,187,899	4,626,815	5,182,723	5,697,766	5,961,383
Commercial power service.....	6,789,218	7,342,173	8,298,669	9,376,159	9,340,653
Municipal power.....	1,922,512	1,913,503	1,921,301	2,086,444	2,111,482
Street lighting.....	1,457,686	1,489,242	1,534,477	1,598,262	1,674,528
Rural service.....	37,811	13,766	48,452 ¹	51,591 ¹	28,955 ¹
Miscellaneous.....	471,134	581,913	465,792	522,781	581,915
Totals, Earnings.....	22,238,863	24,157,279	26,376,465	29,206,685	30,241,829
Expenses—					
Power purchased.....	12,185,669	13,505,584	14,688,570	16,379,163	17,323,078
Substation operation.....	450,417	430,212	420,512	461,270	479,503
Substation maintenance.....	286,520	275,149	247,648	274,276	320,717
Distribution system, operation and maintenance.....	795,515	758,747	736,160	907,817	991,973
Line transformer maintenance.....	74,876	94,706	88,676	93,608	96,746
Meter maintenance.....	189,604	214,814	218,531	242,126	278,379
Consumers' premises expenses.....	275,021	285,353	291,333	314,495	317,902
Street lighting, operation and maintenance.....	295,869	318,396	329,597	359,373	372,211
Promotion of business.....	234,697	220,687	249,842	250,844	249,070
Billing and collecting.....	557,271	605,627	638,797	695,729	745,159
General office, salaries and expenses.....	786,743	824,869	844,578	904,026	907,227
Undistributed expense.....	460,288	531,004	542,755	502,206	523,863
Truck operation and maintenance.....	—	—	—	110,631	112,030
Interest.....	1,985,234	2,063,698	2,111,050	2,152,695	2,220,214
Sinking fund and principal payments on debentures.....	1,347,512	1,505,626	1,601,711	1,687,202	1,828,062
Totals, Expenses.....	19,925,236	21,634,472	23,009,761	25,335,462	26,766,134
Surpluses.....	2,313,627	2,522,807	3,366,704	3,871,223	3,475,686
Depreciation charges.....	1,146,273	1,249,712	1,350,252	1,469,847	1,574,992
Surpluses less depreciation charges.....	1,167,354	1,273,095	2,016,452	2,401,376	1,900,694

¹Profits from sale of merchandise. Rural service now given in "rural power districts".

Rural Electrical Service in Ontario.—During the past few years substantial progress has been made in Ontario in the field of rural electrification and the Commission's rural operations are now an important feature of its work. Towards this rural work the Ontario Government, pursuant to its policy of promoting the basic industry of agriculture, contributes, in the form of "grants-in-aid", 50 p.c. of the initial capital cost of distribution lines and equipment. In 1930 the Ontario legislature passed two additional Acts relating to rural service. The Rural Power District Loans Act, 1930, provides for advances up to \$1,000 to actual owners of lands and premises in rural power districts, for the installation of electrical wiring and the purchase of equipment. The Rural Power District Service Charge Act, 1930, provides for the fixing of low **maximum** service charges for all classes of rural service. Below will be found statistics relating to rural electrical distribution systems operated by the Hydro-Electric Power Commission. A rapid rate of increase is obvious from the statistics of this table also.

14.—Statistics Relating to Electrical Service in Rural Power Districts Operated by the Hydro-Electric Power Commission of Ontario, years ended Oct. 31, 1926-30.

NOTE.—*Re Rural Power District Legislation*, consult the following Provincial Government publications: *The Power Commission Act* (R.S.O. 1927, ch. 57); *The Rural Hydro-Electric Distribution Act* (R.S.O. 1927, ch. 59); *The Rural Power District Loans Act, 1930* (20 Geo. V, ch. 14), and *The Rural District Service Charge Act, 1930* (20 Geo. V, ch. 15).

Item.	1926.	1927.	1928.	1929.	1930.
Number of rural power districts.....	-	120	131	141	160
Number of townships served.....	-	211	233	266	297
Number of consumers.....	18,854	25,283	31,063	37,340	46,715
Miles of primary distribution lines.....	2,277	2,850	3,790	4,835	6,726
Horse-power supplied.....	7,434	13,273	16,980	21,138	26,782
Revenue from customers..... \$	743,133	1,032,558	1,342,625	1,684,455	1,998,252
Total expenses..... \$	604,931	880,940	1,290,500	1,495,928	1,864,823
Net surplus..... \$	138,202	143,618	52,125	188,527	133,428
Capital invested, totals..... \$	4,005,164	5,469,179	7,298,284	9,324,514	12,665,249
Provincial grants-in-aid, totals..... \$	1,985,580	2,718,727	3,628,146	4,636,195	6,297,954

Subsection 2.—Hydro-Electric and Power Commissions in Other Provinces.

Quebec.—The Quebec Streams Commission, originally created by 1 Geo. V, c. 5, and given additional powers by 3 Geo. V, c. 6 (see R.S.Q., 1925, c. 46) and by 20 Geo. V, c. 34, is authorized to ascertain the water resources of the province, to make recommendations regarding their control, and to construct certain storage dams and operate them so as to regulate the flow of streams.

The Commission has not undertaken the direct production of electric power, but has provided assistance to companies engaged in such work by a systematic collection of data on the flow of the principal rivers in the province and on the meteorological conditions prevailing, by investigation of numerous water-power sites and the determination of the longitudinal profile of a large number of rivers, but mostly by the regulation of the flow of the principal power streams, thereby increasing very materially the amount of power available. This regulation is obtained by the construction of storage dams by which water is held in large reservoirs during flood periods and is used to increase the flow at low-water periods.

The Commission has built storage reservoirs on the St. Maurice river, where the low-water flow has been increased from 6,000 second-feet to 17,000 second-feet, on the St. Francis, lake Kenogami, the Métis, the Ste. Anne de Beaupré and the North rivers. The entire cost to the Commission of the storage works on these rivers has been about \$9,000,000 and the annual revenue now derived from them exceeds \$750,000.

Other reservoirs have been built and paid for by the benefiting companies instead of being financed by the Commission, namely:—

In the Gatineau River watershed two large storage reservoirs, Baskatong and Cabonga, were completed in 1927 and 1929, and have a combined capacity of 140 billions of cubic feet, making it possible to increase the flow of the Gatineau river from 3,000 second-feet to 10,000 second-feet. This work was paid for by the Gatineau Power Company.

In 1930, on the Lièvre river, a storage reservoir of 18 billions of cubic feet has been completed at Cedar Rapid, one mile and a half above Notre-Dame-du-Laus and will be operated to maintain a regulated flow of 3,500 second-feet at High Falls. The cost of this dam was paid by the James MacLaren Company, of Buckingham.

In the same year, on Mattawin river, St. Maurice District, a storage reservoir of 33 billions of cubic feet was built at Taureau Rapid, 80 miles from the mouth of the river, with a view to a better and more complete regulation of the flow of the St. Maurice river. This work was paid for by the Shawinigan Water and Power Company.

These reservoirs are the property of the Commission and are operated by the Commission.

Nova Scotia.—The Nova Scotia Power Commission was created in 1919 with powers similar to those of the Ontario Commission. It is authorized to "generate, accumulate, transmit, distribute, supply and utilize electrical energy and power in any part of the province of Nova Scotia, and do everything incidental thereto or deemed by the Commission necessary or expedient therefor". Its main operations, however, are undertaken with the approval of the Lieutenant-Governor in Council.

The Commission has already constructed several important hydro-electric developments and is now operating the following systems: *St. Margarets Bay*—sells power by wholesale in Halifax and vicinity; *Mushamush*—sells power by wholesale and retail in Lunenburg Co.; *Sheet Harbour*—sells power by wholesale in Pictou Co., also supplies demands of a groundwood pulp-mill at Sheet Harbour; *Mersy System*—supplies demands of pulp and paper-mill at Brooklyn, Queens Co., also supplies town of Liverpool and vicinity; *Trusket System*—sells power by wholesale in Yarmouth, also supplies demands of Cosmos Imperial Mills, Ltd., at Yarmouth; *Roseway System*—sells power by wholesale in Shelburne.

The total installed capacity is 62,875 h.p., and there are about 131 miles of main transmission lines and 190 miles of transmission and distribution lines. The total capital expenditure to Sept. 30, 1931, was about \$13,500,000 and the reserves were \$1,092,751.

New Brunswick.—The New Brunswick Electric Power Commission operates under authority of 10 Geo. V, c. 53 and amendments thereto, and has powers somewhat similar to those of the Hydro-Electric Power Commission of Ontario, except that the plant and equipment operated by the Commission are the property of the province and not of the municipalities.

The Commission owns and operates an 11,000 h.p. hydro-electric plant at Musquash, twelve miles west of Saint John, and purchases auxiliary power from the New Brunswick Power Co. at Saint John and the Bathurst Co., Ltd., on the Nipisiguit river. It operates 100 miles of 66,000 volt line between Musquash and Moncton, 37 miles of 32,000 volt line from Nipisiguit to Newcastle, together with 500 miles of primary distribution lines.

The Commission also has a powdered fuel plant at Newcastle Creek on Grand lake. This plant has an initial installed capacity of 5,000 k.w. The plant was placed in operation Sept. 1, 1931, supplying power to Fredericton and Marysville by means of a double circuit 33,000 volt transmission line. The plant is also connected to the Musquash system by means of a 66,000 volt transmission line from Minto to Moncton. This line was placed in operation Nov. 15, 1931.

The Commission sells power *en bloc* to Saint John, Moncton and Sussex, and retails directly in several towns and villages between Saint John and Dorchester also between Moncton and Shediac, Moncton and Albert, and along the Saint John River valley from Saint John to Gagetown. This system serves, directly or indirectly, about 16,500 customers. The total plant investment of the Commission amounts to \$4,200,000 and the total annual revenue is about \$500,000.

Manitoba.—The formation of the Manitoba Power Commission was authorized by the passage of the Electrical Power Transmission Act of 1919 (c. 30, also c. 61 Consolidated Amendments, 1924) which authorizes the Commission to make provision for generating electrical energy, to enter into contracts for the purchase of power in bulk from generating agencies, and for its transmission and sale to municipalities, corporations and individuals. In 1929 legislation was passed whereby the Government undertook to pay interest charges and sinking fund charges on an amount not exceeding 50 p.c. of the capital cost of the construction and erection of equipment required for the generation and transmission of electrical power or energy to municipalities, farms and other customers.

The Commission has built and is now operating an extensive transmission system under authority of the above Act, supplying electrical power to its many thousands of customers throughout Manitoba. This power is now purchased under the Seven Sisters Power Contract from the Northwestern Power Company and transmitted over high tension steel-tower lines to Portage la Prairie, Brandon and Morden. From this main system power is transmitted to the territory south of the Winnipeg-Brandon main line to the International Boundary.

A branch system serving the territory along the western boundary of the province, and which includes the towns and villages of Reston, Pipestone, Melita, Napinka, Elkhorn, Miniota, Crandall and Arrow River, has been constructed and is operated by the Commission. This system which, until August 1931, was supplied with power generated by the Commission's plant at Virden is now tied into the main system and supplied with power generated at Seven Sisters.

In accordance with the authority granted under the Electrical Power Transmission Act of 1919, the Commission has made purchases of municipally owned plants—notably at Birtle and Brandon—or entered into contracts for the supply of power by municipally owned plants—as at Dauphin—or by the Winnipeg Electric Company, whereby power is supplied to outlying districts. This phase of the Commission's activities has shown a steady growth and during 1931 extensions were made to several additional places.

It is the intention of the Commission to supply all outlying power areas from the main system just as soon as their loads are sufficient to justify the cost of building extensions.

Saskatchewan.—The Saskatchewan Power Commission was established in 1929 under the Power Commission Act (R.S.S. 1930, c. 30) which authorizes the Commission to manufacture, sell and supply electrical energy, to acquire and develop water-power sites, to acquire or construct steam and oil plants, to construct transmission lines, to purchase power and to enter into contracts with municipalities for the supply of energy. The Commission is also given certain control and regulatory powers in connection with the operation of electric public utilities in the province, and is charged with the responsibility for the administration of The Electrical Licensing Act (R.S.S. 1930, c. 214).

The initial operations of the Commission were concerned with acquiring by purchase municipally owned plants which were improved, enlarged or supplemented by installations made by the Commission and were operated as individual systems of supply. Examples of such acquisitions made in 1929 were the Saskatoon, Humboldt, and Rosthern plants. In addition the plant at Shellbrook, the Wynyard-Elfrors-Wadena and the Leader-Prelate-Sceptre systems, served from plants at Wynyard and Leader, were established by the Commission in the same year. In

1930 the municipal plants at North Battleford and Swift Current were acquired, and in 1931 the generating plant at Willow Bunch was added. The Watrous-Nokomis system, which includes ten towns and villages, was also purchased from Canadian Utilities Ltd., and has been connected with the Bulyea system of the Montreal Engineering Co. Ltd.

Transmission lines run from Saskatoon, as the centre of the main system easterly to Humboldt, northerly to Shellbrook and Duck Lake, westerly to Radisson, and southwesterly to Rosetown. Supplementary lines link Rosetown with Moose Jaw, and Tisdale, where the Commission has a generating plant, with Nipawin. All transmission lines supply towns and villages along their courses. There are now 1,307 miles of transmission lines owned and operated.

The Commission purchases several blocks of power or contracts for the interchange of power from private interests in addition to energy generated at its own plants. The number of consumers served directly in 116 towns and villages is approximately 8,200 and those indirectly served (where the cities operate the distribution systems) number 16,124. The total plant investment as at Dec. 31, 1931, was approximately \$7,200,000.

British Columbia.—British Columbia as a province has not, up to the present time, established any commissions for the development and use of water power for the distribution of electrical energy. Such power developments as have been undertaken to date have been by private interests or by municipalities. A Commission called the Water Board regulates the rates which are charged by public utility companies.

CHAPTER XIV.—MANUFACTURES.¹

Manufacture is defined as the operation of making wares from raw materials by the hands, by tools or by machinery, thus adding, in the phraseology of the economist, new utilities, and therefore additional value, to the already existing utilities and values of the raw material. Manufacture, in primitive societies and in the pioneer stages of new communities, is normally carried on within the household for the needs of the household, as was the case among the early settlers of Canada in the seventeenth and eighteenth centuries, when domestic manufactures were carried on in combination with the cultivation of the soil, mainly at the times of the year when agricultural operations were suspended. At a later period in the evolution of society small manufactures were carried on in specialized workshops for the needs of the immediate locality or neighbourhood, as was generally the case in Eastern Canada in the first half of the nineteenth century. Later still, as a consequence of the introduction of machinery operated by steam or electric power—the so-called “industrial revolution”—and of the cheapening of transportation, manufacture has to an ever-increasing extent been concentrated in factories, often employing hundreds and even thousands of persons and producing for a national or even an international market. So far as Canada is concerned, this “industrial revolution” may be said to have commenced shortly before Confederation and to be still in progress. The growth of manufacturing production since 1870 is outlined in this article and the accompanying Table 1, while the increasing importance of Canadian manufacturing for the international market may be illustrated by the fact that Canadian exports of manufactured produce increased from less than \$3,000,000 per annum on the average of 1871-1875 to \$614,000,000 in the post-war fiscal year ended Mar. 31, 1920. Exports of “fully or chiefly manufactured” products in the fiscal year ended Mar. 31, 1931, amounted in value to 352,108,830 and exports of “partly manufactured” products to 142,452,920.

Section 1.—The Evolution of Canadian Manufacturing Industries.

Early Manufactures.—The type of manufactures established in a community will in the beginning be largely determined, more especially where transportation charges are high, by the raw materials available in that community. For example, probably the first agricultural process to be carried on by Europeans in what is now the Dominion of Canada was the raising of a crop of grain at Port Royal, Nova Scotia, in 1605; the first corresponding manufacturing process was the grinding of the grain in the autumn of that year. Other early manufactures were also necessarily connected with the satisfaction of the primary needs of human beings for food, clothing and shelter, and with the other primary need for protection. At a census of occupations taken in 1681, we find enumerated a comparatively large number of tailors and shoemakers, masons and carpenters, gunsmiths and edge tool makers.

¹Revised by A. Cohen, B. Cnm., Acting Chief, Industrial Statistics Branch, Dominion Bureau of Statistics. This Branch publishes individual reports on the manufacturing industries, comprising vegetable products, textiles and miscellaneous industries, also reports on the manufacturing industries generally for Canada and the provinces. For a complete list of publications of this Branch see Chapter XIX, Section I, under “Production”.

The earlier manufactures were necessarily of a rather crude and primitive type, concerned with the production of commodities which were too bulky to bear the heavy transportation charges of those days, when only one round trip per year could be made between France and Quebec, and vessels were constantly subject to the storms of the North Atlantic and very frequently to the attacks of the English. Indeed, although the colonial policy of France under the old *régime* aimed at preventing the manufacture in Canada of any article which could be imported from the Mother Country, the uncertainties of transportation due to the colonial wars of the period—France and England were at war for 34 years out of the 74 years between 1689 and 1763—led to a necessary relaxation of restrictions. On the occasion of the English capture of a convoy in 1705, the colonists were driven to manufacture rough cloth out of whatever fibres they could obtain, such as the Canadian nettle and the inner bark of the basswood. Such events led to the introduction of sheep-raising and the manufacturing of homespun woollens. The number of sheep in the colony increased from 1,820 in 1706 to 12,175 in 1720, 28,022 in 1765, 84,696 in 1784 and 829,122 in Lower Canada alone in 1827. This increase in sheep approximately measures the growth of the manufacture of homespun woollens. In the same year, according to census records, there were in Lower Canada 13,243 spinning-wheels, while 1,153,673 French ells of home-made cloth, 808,240 French ells of home-made flannel and 1,058,696 French ells of home-made linen were produced. In 1842 Upper Canada produced 433,527 yards of home-made cloth, 166,881 yards of home-made linen and 727,286 yards of home-made flannel and, in 1848, 624,971 yards of fulled cloth, 71,715 yards linen and 1,298,172 yards flannel. Nova Scotia in 1851 produced 119,698 yards fulled cloth, 790,104 yards non-fulled cloth and 219,352 yards flannel. Such production of homespun goods did not materially interfere with the market for the more elaborate factory-made goods imported from the United Kingdom, but supplied the daughters of pioneer families with useful work in their own homes.

In the days when ships were built of wood Canada was advantageously situated with respect to their production. Pont-Gravé built two small vessels at Port Royal in 1606 and one at Tadoussac in 1608. Talon, in 1666, built on his private account a ship of 120 tons, and in 1672 a vessel of over 400 tons was on the stocks at Quebec. Ships were built for the French navy and for the West India trade. Under the British *régime* shipbuilding was conducted on a large scale in Quebec and New Brunswick, the industry reaching its climax of prosperity about 1865 when 105 Quebec-built ships with a tonnage of 59,333 were placed on the register. Thereafter iron and steel ships gradually supplanted the wooden vessels, but the forests of Canada have since provided the raw material for the pulp and paper and other important industries.

The manufacture of mineral products has been of comparatively recent date. Iron deposits in the St. Maurice region were worked as early as 1733 and furnaces set up there for smelting in 1737 were in fairly constant operation until 1883. The iron and steel used in manufacturing in Canada, as well as the coal which has supplied the manufacturing industries with power, has in the main been imported from the United States, chiefly because the principal manufacturing centres of this country in the St. Lawrence and Great Lakes region are fairly conveniently situated with regard to the coal and iron supplies of the United States and far away from the coal and iron supplies of the Maritime Provinces. In recent years the shortage of coal has been made up for by the increasing use of electric power, while the great bulk of the pig iron used in Canadian manufactures is now made in domestic blast furnaces.

The Introduction of the Factory System.—In Canada, as in the United States and in Great Britain, it was inevitable that manufactures, carried on in the household or in small adjoining workshops, should be supplanted in the leading industries of the country by manufactures carried on in factories. A factory has been defined as "an establishment where several workmen are collected for the purpose of obtaining greater and cheaper conveniences for labour than they could procure individually at their homes, for producing results by their combined efforts which they could not accomplish separately and for preventing the loss occasioned by carrying articles from place to place during several processes necessary to complete their manufacture". Such factories began to exist in Canada in the 60's and the 70's of the last century and have now become the dominant type of Canadian manufacturing industry.

Encouragement of Manufactures by Protective Tariffs.—In all new and developing countries producing food products and raw materials in abundance, there comes, at a certain stage, a movement for working up these commodities within the country. Thus a movement to promote a rise of manufacturing industries in Canada took place in the 50's of the last century, and in 1858 the Canadian Legislature enacted a protective tariff against which English exporters of manufactured goods vehemently protested. Canada, however, claimed the right to raise her revenue in the manner which suited herself and Great Britain did not contest the point. From that day to this there has been an element of protection in Canadian tariff legislation. For a considerable time the protection afforded to Canadian manufacturers was described as "incidental protection", and after Confederation the tariff was reduced in deference to the low tariff sentiment prevailing in the Maritime Provinces, which were commercial rather than manufacturing communities. However, after a commercial depression which took place in the 1870's the people of Canada, at the general election of 1878, voted in favour of a higher tariff.

The policy of protection was definitely adopted in 1879, when the manufacturer was given an increase in the duty on his finished product, offset in some cases, it is true, by higher duties on his raw materials. Sugar and molasses products comprised some twelve tariff items, seven bearing a compound duty, the average *ad valorem* duty imposed being 26·25 p.c. On the lines of cotton goods likely to be manufactured in Canada duties were raised from 17½ p.c. to rates, specific and *ad valorem*, equivalent, on the importations of 1891, to 30 p.c. The duties on woollens, which were all in the 17½ p.c. schedule in 1878, were practically doubled. On some of the 36 iron and steel articles enumerated in the schedule the duties were specific, on some compound, but on the whole there was an average duty of 16·17 p.c. Pig iron, previously free, was made to pay \$2 a ton. The duty on iron billets, bars and rods was increased from 5 p.c. to 10 p.c. and 17½ p.c., while manufactured iron and steel products and machinery were given 25 p.c. to 35 p.c. protection. On coal, both bituminous and anthracite, a duty of 50 cents a ton was imposed. The average *ad valorem* rate of duty on dutiable imports in 1880 was 26·1 p.c. as compared with 21·4 p.c. in 1878. The maximum percentage was reached in 1889, when the rate was 31·9 p.c. By 1896 there was a slight drop in the rate to 30·0 p.c. and the declining trend continued until 1918 and 1919, when a rate of 21·5 p.c. was recorded. In 1923 the rate was 24·9 p.c., in 1927, 24·1 p.c., and in 1930, 24·3 p.c. The average *ad valorem* rate of duty on all imports was 16·7 p.c. in 1923 and 15·9 p.c. in 1930. These rates are based on the gross sums collected; if the refunds and drawbacks were allowed for the net rate of customs duty would be substantially lower.

Growth of Canadian Manufactures Prior to the War.—Until the late '90's, the growth of Canadian manufacturing industries was not particularly rapid, though the great fall in the prices of commodities during the period from 1873 to 1897 was largely responsible for the comparatively slow growth of the values of manufactured commodities from \$221,600,000 in 1870 to \$469,800,000 in 1890. Afterwards there was a change and the prices of commodities commenced to rise while the industries generally shared in the advantages of the great growing period from 1900 to 1912. The gross product of establishments with five hands or over increased from \$368,700,000 in 1890 to \$1,166,000,000 in 1910 and to \$1,381,500,000 in 1915. The fundamental advantages of the position of Canada, her abundant raw material, her inexhaustible water power, her growing home market in the expanding West, had contributed to this result.

In the present, as in the past, Canadian manufacturing production has been chiefly dependent upon the use of Canadian raw material, though this is less true than formerly. Raw cotton, for example, is imported from the Southern States, hides from Argentina, rubber from the Straits Settlements and Malay peninsula, sugar from Fiji and the British West Indies, and wool from England, Australia and New Zealand to supply the raw material for Canadian manufacturing industries.

The Influence of the War.—The influence of the war upon the manufactures of Canada was profound and far-reaching, tending to promote the diversification of products and the production at home of many commodities which had previously been imported. On account of the practical suspension of the importation of manufactured goods of many kinds from Europe enterprising Canadian manufacturers were given opportunities of entering upon new lines of manufacture with practical control of the market. There was added to this the reflex effect of the great prosperity of agriculture, produced by the unprecedented prices of war time, with the general result that industry worked at high pressure, not only to produce munitions and military supplies for the armies of the Allies, but also to make the manifold varieties of goods required for the stimulated civilian consumption. The world shortage of staple commodities, coupled with a strong domestic demand, gave Canadian industries in general a pronounced stimulus toward greater production and, in a great number of cases, the capacity of manufacturing plants was increased; this increase created a demand for greater supplies of raw material. Incidentally, factory methods became more specialized and a high degree of administrative and mechanical efficiency was attained, and Canada, partly owing to the absorption of the energies of Europe in the war, assumed a new position as one of the leading manufacturing countries of the world. The inflation of the war period also led to unprecedented figures of values produced.

The great boom in Canadian manufactures described above reached its height in the summer of 1920, statistics for that year showing a gross value of products which was not exceeded until 1929. Even the net value of manufactured products in 1920 was not exceeded until 1928. Statistics for 1921, as published in Table 11 show a great decline in values from those of 1920, which does not mean a corresponding decline in quantity of production, though a certain decline undoubtedly took place. There was also some decline in 1922 followed, however, by a general improvement during 1923. Final statistics for 1924 were a little below those of 1923. The statistics for 1925, 1926, 1927, 1928 and 1929 show a steady and notable growth in both gross and net values of products. These values in 1929 reached a higher point than in the post-war boom of 1920, although the prices of manufactured

goods had dropped about 41 p.c. in the intervening period. This steady expansion was halted during 1930, owing to the world-wide recession in business which set in toward the end of 1929, with the result that Canadian manufacturing production in 1930 dropped back to near the 1927 level in gross value of production. The monthly reports of employers as to numbers employed indicate that the final figures for 1931 will probably show a further recession.

Subsection 1.—Growth of Manufacturing Production in the Dominion and the Provinces Since 1870.

The growth of large-scale production in manufactures during the past half-century is evident from the statistics of Table 1, though this tendency has been less marked in Canada than in more highly developed industrial communities, with larger populations able to absorb a larger amount of standardized commodities. Even so, in the electoral district of South Toronto, the most important manufacturing centre of Ontario, the census of 1911 showed that one-half of the industrial establishments employed 90 p.c. of the workers. In the period immediately preceding the Great War many consolidations of independent manufacturing plants were effected, with large economies in the purchase of materials and in selling expenses, and this process has been even more evident in the post-war period.

The historical Table 1 shows fairly well the advance of the "Industrial Revolution" (which might better be called "evolution") in Canada. The average capital per manufacturing establishment, the average number of employees per establishment and the average value of product per establishment, if allowance be made for the inflation of values and generally disturbed conditions of the war period, have continued to increase. If the consolidation of industry lessens the chances of an employee becoming an employer, it must be remembered that the amounts paid to employees in salaries and wages have also increased, so that the position of the average employee has been greatly ameliorated, though the lack of statistics of Canadian retail prices before 1890 prevents any detailed comparison of the purchasing power of the average wages of the worker of 1870 and of the employee of the present time.

The Censuses of Manufactures.—The comparability of the statistics of various censuses is seriously affected by the different methods employed in census-taking. In the censuses of 1870, 1880 and 1890, all manufacturing establishments were included, the instructions to enumerators running as follows: "An industrial establishment is a place where one or several persons are employed in manufacturing, altering, making up or changing from one shape into another materials for sale, use or consumption, quite irrespectively of the amount of capital employed or of the products turned out. All repairs, mending or custom work are understood to be industrial products and are to be entered accordingly, by value, in the returns of industrial establishments".

In the statistics of 1900, 1905 and 1910, however, only establishments employing five hands and upwards were included. The 1901 instructions were that no manufacturing establishment or factory was to be recognized for census purposes if it did not employ at least five persons, either in the establishment itself or as piece-workers employed outside of it. This, however, did not apply to cheese and butter factories nor to certain mineral industries. The 1911 instructions stated that every factory in operation during the whole or part of 1910, and employing five or more persons, was to make a full report. All flour mills, saw and shingle-mills, lime

kilns, brick and tile works, butter and cheese factories, fish-curing plants, electric light and power plants whatsoever were nevertheless to be included. The statistics for 1915 included only establishments having an output of \$2,500 or over, irrespective of the number of persons employed, except in the case of flour and grist mills, butter and cheese factories, fish-preserving factories, sawmills, brick and tile yards, lime kilns and electric light plants, where all plants were included.

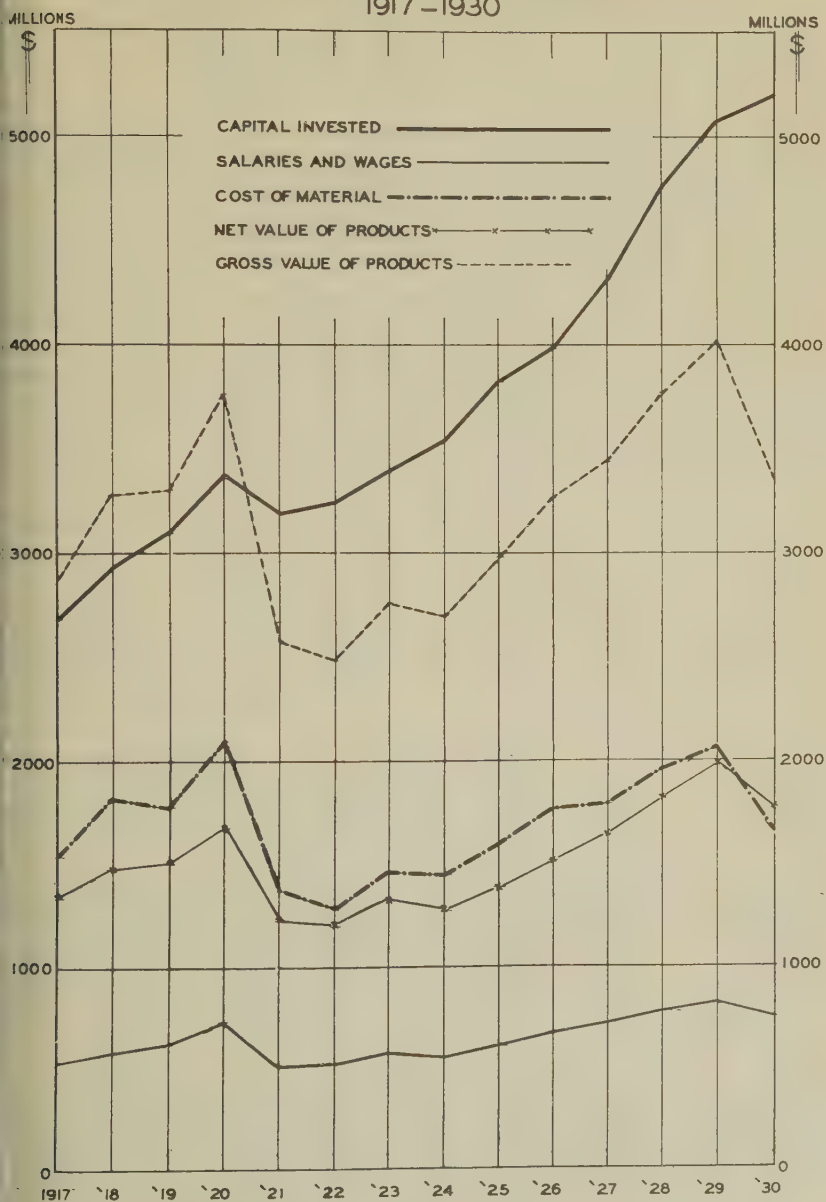
Censuses of Manufactures in Recent Years.—Under the Statistics Act of 1918, the policy of including mines, fisheries, manufactures and other industries in the decennial census was given up and an annual "Census of Industry" substituted therefor. (See Annual Report of the Dominion Statistician, 1919, pp. 30-36.)

In the Census of Industry for 1917 the limit of output was withdrawn and all establishments reporting to the Bureau were included, the effect being an increase in the number of establishments included from 21,306 in 1915 to 34,392¹ in 1917—an increase due mainly to change of method, rather than to a change in the actual number of industrial establishments existing in the Dominion. The statistics in regard to a large number of the custom and repair industries were not collected for 1922, resulting in the dropping from the compilation of the entire group of "construction, hand trades and repairs". For 1923, again, statistics of ship- and bridge-building and of various clay products industries were collected and included for the first time. The result was that, in order to restore the desired comparability between statistics of various years, a complete revision of all figures from 1917 to 1924 had to be made. Considerable changes have resulted, but statistics of these years are now free of all inaccuracies due to changes in methods of collection or compilation. In 1925 statistics of the non-ferrous metal smelting industry were for the first time included in the figures for manufacturing. In 1920 certain duplications in the gross revenue of central electric stations were eliminated in a net figure and the difference shown as "cost of material", while the method of compiling the number of employees was changed for 1925 and subsequent years in the following respect: the yearly average of employees for each establishment was computed by dividing the sum of employees reported in each month by the number of months in operation instead of, as formerly, by 12 whether the industry was seasonal and only operated part of the year or not. These changes have created a slight incomparability with the statistics for the preceding years.

In any comparison between the results of the 1915 quinquennial census and the subsequent annual censuses, the rapid rise and fall in prices must be borne in mind, and in comparisons between these annual censuses themselves the same factor must be taken into account. Thus, the new Canadian weighted index number of wholesale prices, compiled by the Dominion Bureau of Statistics with 1926 as a base, was 155.9 in 1920 as compared with 134.0 in 1919, 127.4 in 1918, 114.3 in 1917 and 70.4 in 1915. In 1921, however, there was a great decline to 110.0— a decline of approximately 29.4 p.c. from the preceding year. In such circumstances, it was inevitable that up to 1920 phenomenal advances in the money value of manufactured products should have been recorded, and that wages and salaries paid should also have greatly advanced since 1915. It was equally inevitable that in all these respects 1921 should show a great decline, due in much larger measure to the fall in values than to the decrease in the volume of production. In 1922 the index number showed a further drop to 97.3, but afterwards there was a rise to

¹The subsequent decision to omit the group of "construction, hand trades and repairs" from the census of manufactures, together with other less important changes, accounts for the reduction of the number of manufacturing establishments in 1917, as appearing in Table 1, to 22,838, a comparable figure with the 23,597 establishments recorded in 1929 and the 24,023, in 1930.

FOURTEEN YEARS OF CANADIAN MANUFACTURES 1917 - 1930



98.0 in 1923, to 99.4 in 1924 and 102.6 in 1925. In 1926, 1927, 1928, 1929 and 1930, however, there was a declining trend again to 100.0, 97.7, 96.4, 95.6 and 86.6, respectively, this last being the lowest figure since 1916. This would indicate that the comparatively small decline in the gross production of manufactured goods in 1922 was entirely due to declining values. Gross production in 1926, 1927, 1928 and 1929 showed large increases in spite of a definite decline in price level, while the sharp decline in prices during 1930 was probably accompanied by some diminution in the volume of manufacturing as well. (See Table 4.)

In Table 1 are presented statistics showing by provinces the development of Canadian manufacturing industries during the 60 years from 1870 to 1930. To economize space, the statistics for certain years of the annual censuses since 1917 which were given at pp. 407-409 of the 1931 Year Book, are here omitted. Statistics are retained, however, for the years 1917 (the first of the annual censuses), 1918 (the peak year of war production), 1920 (the height of the post-war inflation), 1922 (the lowest year of the post-war re-adjustment), and for the latest five years, 1926-1930. Particularly notable is the increase in the manufactures of British Columbia from \$2,900,000 in 1880 to \$277,000,000 in 1929 and of Manitoba from \$3,400,000 in 1880 to \$165,000,000 in 1929. Saskatchewan also shows an increase from \$2,400,000 in 1905 to \$81,000,000 in 1929 and Alberta from \$5,000,000 in 1905 to \$108,000,000 in 1929. Thus the West is rapidly becoming an important contributor to Canadian manufacturing production.

1.—Historical Summary of Statistics of Manufactures, by Provinces, for typical years 1870-1930.¹

(All establishments irrespective of the number of employees.)

Province.	Estab-lish-ments.	Capital.	Em-ployees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$	\$
1870.							
Canada.....	41,255	77,964,026	187,943	49,851,009	124,907,846	96,709,927	221,617,700
Nova Scotia.....	4,912	6,041,966	15,595	3,176,266	5,806,257	6,531,848	12,338,100
New Brunswick....	3,479	5,976,176	18,352	3,869,360	9,431,760	7,935,927	17,367,600
Quebec.....	13,818	28,071,868	66,714	12,389,673	44,555,025	32,650,157	77,205,100
Ontario.....	19,050	37,874,010	87,281	21,415,710	65,114,804	49,591,995	114,706,700
1880.							
Canada.....	49,722	165,302,625	254,935	59,429,000	179,913,593	129,757,475	309,676,000
P. E. Island.....	1,617	2,083,776	5,767	807,208	1,829,210	1,570,998	3,400,000
Nova Scotia.....	5,493	10,183,660	20,390	4,093,445	10,022,030	8,553,296	18,575,300
New Brunswick....	3,005	8,425,282	19,922	3,866,011	11,060,842	7,451,816	18,512,600
Quebec.....	15,754	59,216,992	85,673	18,333,162	62,563,967	42,098,291	104,682,000
Ontario.....	23,070	80,950,847	118,308	30,604,031	91,164,156	66,825,714	157,989,800
Manitoba.....	344	1,383,331	1,921	755,507	1,924,821	1,488,205	3,413,000
British Columbia...	415	2,952,835	2,871	929,213	1,273,816	1,652,968	2,926,700
The Territories....	24	104,500	83	35,425	79,751	116,187	195,500
1890.							
Canada.....	75,964	353,213,600	369,595	100,415,350	250,759,292	219,088,594	469,847,500
P. E. Island.....	2,679	2,911,963	7,910	1,101,620	2,092,067	2,253,843	4,345,000
Nova Scotia.....	10,495	19,730,736	34,944	7,233,111	16,062,479	14,903,913	30,968,500
New Brunswick....	5,420	15,821,855	26,675	5,970,914	12,501,453	11,348,202	23,849,600
Quebec.....	23,034	116,974,615	116,753	30,461,315	80,712,496	66,747,087	147,459,500
Ontario.....	32,151	175,972,021	166,322	49,730,359	127,737,371	111,504,555	239,241,000
Manitoba.....	1,031	5,684,237	4,403	1,905,981	5,688,151	4,467,031	10,155,100
British Columbia...	770	14,404,394	11,507	3,586,897	5,119,258	6,880,670	11,999,000
The Territories....	375	1,713,179	1,081	425,153	846,017	981,293	1,827,500

¹See note at end of Table 1 on p. 315.

1.—Historical Summary of Statistics of Manufactures, by Provinces, for typical years, 1870-1930—continued.

(Establishments with five hands and over.)

Province.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
1890.	No.	\$	No.	\$	\$	\$	\$
Canada ²	14,065	-	272,033	79,234,311	-	-	368,696,723
1900.							
Canada	14,656	446,916,487	339,173	113,249,356	268,527,858	214,525,517	481,053,375
P. E. Island.....	334	2,081,766	3,804	445,998	1,319,058	1,037,650	2,326,708
Nova Scotia.....	1,188	34,586,416	23,284	5,613,571	13,161,077	10,431,436	23,592,513
New Brunswick.....	919	20,741,177	22,158	5,748,996	10,814,014	10,158,456	20,972,470
Quebec.....	4,845	142,403,407	110,329	36,550,655	86,679,779	71,608,215	158,287,994
Ontario.....	6,543	214,972,275	161,757	56,548,286	128,230,406	103,303,086	241,533,486
Manitoba.....	324	7,539,691	5,219	2,419,549	7,955,504	4,971,935	12,927,439
Alberta and Saskatchewan.....	105	1,689,876	1,168	465,763	1,121,342	843,645	1,964,987
British Columbia.....	392	22,901,892	11,454	5,456,538	7,246,684	12,201,094	10,447,778
1910.							
Canada	19,218	1,247,583,606	515,203	241,008,416	601,509,018	564,466,621	1,165,975,639
P. E. Island.....	442	2,013,365	3,762	531,017	1,816,804	1,319,666	3,136,470
Nova Scotia.....	1,480	79,596,341	28,795	10,628,955	26,058,315	26,647,869	52,706,184
New Brunswick.....	1,158	36,125,012	24,755	8,314,212	18,516,096	16,906,266	35,422,302
Quebec.....	6,584	326,946,925	158,207	69,432,967	184,374,053	166,527,603	350,901,656
Ontario.....	8,001	595,394,608	238,817	117,645,784	297,580,125	282,230,100	579,810,225
Manitoba.....	439	47,941,540	17,325	10,912,866	30,499,829	23,173,780	53,673,609
Saskatchewan.....	173	7,019,951	3,250	1,936,284	2,747,266	3,584,866	6,332,132
Alberta.....	290	29,518,346	6,980	4,365,661	9,998,777	8,790,048	18,788,825
British Columbia.....	651	123,027,521	33,312	17,240,670	29,917,753	35,286,483	65,204,236
1915.							
Canada ³	15,593	1,958,705,230	-	283,811,503	791,943,433	589,603,792	1,381,547,225
P. E. Island.....	261	1,841,696	-	543,554	1,499,066	1,087,757	2,586,823
Nova Scotia.....	781	125,754,562	-	17,175,818	36,194,004	33,151,815	69,345,819
New Brunswick.....	630	45,970,488	-	8,767,230	21,314,643	15,989,257	37,303,900
Quebec.....	5,743	530,312,464	-	80,324,171	213,754,115	167,449,884	381,203,999
Ontario.....	6,538	946,619,114	-	140,609,691	410,670,537	304,861,302	715,531,839
Manitoba.....	499	94,690,750	-	13,389,569	38,529,386	21,952,060	60,481,446
Saskatchewan.....	238	14,736,863	-	2,440,062	7,417,166	5,938,040	13,355,206
Alberta.....	282	41,198,897	-	4,791,281	20,669,967	8,716,254	29,416,221
British Columbia.....	621	157,580,405	-	15,269,729	41,864,549	30,457,423	72,321,972
(All establishments irrespective of the number of employees.)							
1917.							
Canada	22,838	2,696,154,030	621,694	509,382,027	1,541,087,416	1,332,180,767	2,873,268,183
P. E. Island.....	418	2,225,482	1,588	683,149	3,088,718	1,816,986	4,905,704
Nova Scotia.....	1,887	128,052,239	25,814	19,177,637	102,465,085	58,751,437	161,207,522
New Brunswick.....	987	64,010,777	20,201	13,192,740	32,466,048	27,996,000	60,462,048
Quebec.....	7,193	793,589,489	191,969	143,291,802	385,486,685	396,539,787	782,026,472
Ontario.....	9,471	1,302,675,630	306,270	264,442,393	795,095,511	685,063,845	1,480,159,356
Manitoba.....	816	95,530,452	20,055	17,381,806	69,884,850	45,062,533	114,947,383
Saskatchewan.....	633	30,096,623	6,846	5,906,150	22,093,445	15,529,428	37,622,873
Alberta.....	720	60,552,814	10,191	9,323,221	42,725,021	26,105,121	68,830,142
British Columbia.....	1,202	215,681,355	38,689	35,864,308	87,764,650	74,978,844	162,743,494
Yukon.....	11	3,739,169	71	118,801	26,403	336,786	863,189
1918.							
Canada	22,910	2,925,815,424	618,305	582,457,488	1,829,040,369	1,460,723,777	3,289,764,146
P. E. Island.....	390	2,606,886	1,266	670,093	3,354,829	1,737,195	5,092,024
Nova Scotia.....	1,357	126,563,220	23,909	20,475,961	89,667,282	57,838,599	147,605,881
New Brunswick.....	909	72,783,311	18,443	13,338,342	33,222,984	32,231,038	65,454,022
Quebec.....	7,350	833,095,963	190,646	163,483,036	454,373,411	420,651,473	875,024,884
Ontario.....	9,701	1,460,384,037	307,283	300,963,759	974,277,838	760,245,667	1,734,523,505
Manitoba.....	786	96,382,644	20,289	19,740,123	88,545,186	45,096,245	133,641,381
Saskatchewan.....	577	35,435,976	6,348	6,705,010	28,394,364	15,900,874	44,295,238
Alberta.....	638	58,294,599	8,457	8,857,536	53,159,734	24,747,604	77,907,338
British Columbia.....	1,188	237,645,059	41,605	48,119,819	104,023,957	102,038,534	206,062,491
Yukon.....	14	3,633,729	59	102,909	20,834	236,548	257,382

¹See note at end of Table 1 on page 315.

²These statistics are not available by provinces.

³For 1915 the number of employees in establishments employing 5 hands and over has not been compiled.

1.—Historical Summary of Statistics of Manufactures, by Provinces, for typical years, 1870-1930¹—continued.

(All establishments irrespective of the number of employees.)

Province.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$	\$
1920.							
Canada	23,351	3,371,940,653	609,586	732,120,583	2,085,271,649	1,686,978,408	3,772,250,057
P. E. Island.....	384	2,734,719	1,327	888,121	4,164,223	2,221,746	6,385,968
Nova Scotia.....	1,388	141,549,856	23,834	26,127,781	85,724,785	63,274,708	148,999,493
New Brunswick.....	928	105,671,688	19,241	19,505,048	60,812,641	46,910,631	107,723,272
Quebec.....	7,677	1,028,226,105	186,308	205,829,155	553,558,520	517,693,125	1,071,251,647
Ontario.....	9,473	1,668,079,488	300,794	369,846,193	1,071,843,374	822,570,783	1,894,414,157
Manitoba.....	773	112,896,616	24,481	33,357,872	92,729,271	65,492,637	158,221,908
Saskatchewan.....	639	31,727,162	7,182	10,249,392	34,894,105	24,655,529	59,549,634
Alberta.....	722	61,063,132	11,887	15,903,609	56,139,646	32,466,428	88,606,074
British Columbia and Yukon.....	1,367	219,991,887	35,132	50,413,414	125,405,084	111,692,821	237,097,906
1922.							
Canada	22,541	3,244,302,410	474,430	510,431,312	1,283,774,723	1,198,434,407	2,482,209,130
P. E. Island.....	352	2,946,329	1,127	628,540	2,621,443	1,787,569	4,409,012
Nova Scotia.....	1,163	106,647,616	14,286	12,192,652	38,003,168	29,985,794	67,988,968
New Brunswick.....	897	82,230,895	14,351	12,201,014	38,059,376	26,821,281	64,880,657
Quebec.....	7,410	970,019,442	147,952	144,368,667	337,752,977	370,276,067	708,029,044
Ontario.....	9,388	1,696,738,996	243,297	275,559,006	678,746,675	617,752,828	1,296,499,503
Manitoba.....	781	88,779,517	14,188	18,274,012	54,630,668	41,326,416	95,957,084
Saskatchewan.....	614	31,101,612	4,196	5,618,174	22,450,051	16,357,481	38,807,532
Alberta.....	672	55,514,624	7,461	9,493,543	30,306,395	22,813,091	53,119,486
British Columbia and Yukon.....	1,264	210,323,379	27,572	32,095,704	81,203,970	71,313,880	152,517,850
1926.							
Canada	22,708	3,981,569,590	581,539	653,850,933	1,755,158,399	1,492,645,039	3,247,803,438
P. E. Island.....	299	2,850,010	2,261	690,403	2,638,244	1,431,091	4,069,335
Nova Scotia.....	1,163	118,050,902	16,782	13,014,707	39,686,139	33,819,503	73,505,642
New Brunswick.....	910	95,661,154	17,674	14,609,734	44,535,406	29,586,833	74,122,239
Quebec.....	7,164	1,216,975,958	180,669	189,326,145	448,584,313	456,716,511	905,300,824
Ontario.....	9,457	1,985,165,921	280,353	335,164,239	924,598,851	753,334,653	1,677,933,504
Manitoba.....	797	127,445,924	21,201	26,973,850	75,588,993	57,129,459	132,718,452
Saskatchewan.....	674	33,943,060	4,904	6,397,545	29,142,700	17,965,397	47,108,097
Alberta.....	749	72,468,286	10,233	12,808,554	50,192,669	33,232,962	83,425,631
British Columbia and Yukon.....	1,495	329,008,375	47,462	54,865,756	140,191,084	109,428,630	249,619,714
1927.							
Canada	22,936	4,337,631,558	618,933	693,932,228	1,789,574,604	1,635,923,936	3,425,498,540
P. E. Island.....	291	3,081,504	2,232	687,849	2,855,438	1,638,190	4,493,628
Nova Scotia.....	1,190	128,155,040	17,864	13,610,944	42,059,320	32,398,977	74,458,291
New Brunswick.....	872	99,087,327	18,970	14,999,101	42,780,582	29,886,083	72,666,665
Quebec.....	7,206	1,376,654,019	196,094	203,724,997	474,361,396	516,221,599	990,582,995
Ontario.....	9,512	2,134,181,377	296,034	355,174,773	939,872,655	818,132,001	1,758,004,575
Manitoba.....	859	151,373,047	23,031	28,934,926	79,510,766	62,578,912	142,089,678
Saskatchewan.....	721	38,387,248	5,683	7,280,945	32,165,027	20,015,654	52,180,681
Alberta.....	776	81,664,730	11,285	13,511,359	50,611,021	34,376,296	84,987,317
British Columbia and Yukon.....	1,509	325,047,266	47,740	56,007,334	125,358,489	120,676,215	246,034,704
1928.							
Canada	23,379	4,780,296,049	658,023	755,199,372	1,950,804,339	1,819,046,025	3,769,850,364
P. E. Island.....	277	3,121,568	2,035	712,945	2,747,292	1,697,868	4,445,160
Nova Scotia.....	1,167	138,809,331	19,222	15,838,394	44,168,441	40,780,167	84,948,608
New Brunswick.....	794	114,660,886	17,963	14,682,510	39,750,561	27,663,181	67,413,742
Quebec.....	7,231	1,583,350,884	204,959	217,887,481	510,580,872	562,581,419	1,073,162,291
Ontario.....	9,900	2,275,921,056	320,729	391,375,947	1,034,501,240	915,222,879	1,949,724,119
Manitoba.....	871	159,721,124	25,166	32,569,223	88,284,693	71,150,401	159,435,091
Saskatchewan.....	737	44,622,135	6,173	8,003,677	34,136,731	24,938,549	59,125,286
Alberta.....	778	92,190,476	12,827	15,403,292	59,398,697	41,345,704	100,744,401
British Columbia and Yukon.....	1,624	367,898,589	48,949	58,726,003	137,185,812	133,665,857	270,851,669

¹See note at end of Table 1 on p. 315.

1.—Historical Summary of Statistics of Manufactures, by Provinces, for typical years, 1870-1930—concluded.

(All establishments irrespective of the number of employees.)

Province.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$	\$
1929.							
Canada.....	23,597	5,083,014,754	694,434	813,049,842	2,066,636,914	1,997,350,365	4,063,987,279
P.E. Island.....	276	3,489,934	2,133	781,448	2,864,831	1,773,894	4,638,725
Nova Scotia.....	1,195	135,662,325	20,966	17,925,100	51,506,523	42,786,292	94,292,816
New Brunswick....	860	117,965,970	18,517	15,712,322	40,453,535	30,980,431	71,433,966
Quebec.....	7,156	1,673,011,042	213,467	233,803,672	543,240,589	617,372,403	1,160,612,992
Ontario.....	9,910	2,418,340,450	339,859	421,789,723	1,080,106,598	1,022,984,190	2,103,090,788
Manitoba.....	923	173,152,948	26,318	34,158,583	89,158,381	75,750,746	164,909,127
Saskatchewan.....	761	58,877,124	8,047	10,438,759	51,208,827	29,292,322	80,501,159
Alberta.....	817	107,648,028	13,748	16,460,038	63,432,924	44,123,868	107,556,792
British Columbia and Yukon.....	1,699	394,866,933	51,379	61,980,107	144,664,706	132,286,208	276,950,914
1930.							
Canada.....	24,020	5,203,316,760	644,439	736,092,766	1,666,983,902	1,761,986,726	3,428,970,628
P.E. Island.....	267	3,441,958	2,055	788,106	2,546,827	1,708,139	4,254,966
Nova Scotia.....	1,302	133,671,163	21,069	17,537,690	44,506,178	41,296,743	85,802,921
New Brunswick....	924	140,611,530	18,422	14,988,441	33,897,264	29,570,998	63,468,262
Quebec.....	7,410	1,727,064,388	204,802	216,835,675	462,244,278	560,036,409	1,022,280,687
Ontario.....	9,888	2,431,369,848	307,477	370,781,452	836,666,780	876,358,542	1,713,025,332
Manitoba.....	937	188,413,164	26,488	33,941,235	74,761,265	67,663,725	142,424,990
Saskatchewan.....	750	65,486,140	7,248	9,229,593	35,608,157	26,668,609	62,276,766
Alberta.....	845	109,930,271	14,099	17,092,033	53,621,884	40,692,898	94,314,782
British Columbia and Yukon.....	1,697	403,328,298	42,779	54,898,541	123,131,269	117,990,663	241,121,932

¹Statistics of the construction, and custom and repair industries have not been collected since 1921; the figures for these industries for 1917 to 1921 have consequently been deducted from the totals as previously published. The industries excluded comprise custom clothing, dyeing and laundry work, boot, jewellery, automobile and bicycle repairing, blacksmithing, and custom and repair work by foundries.

Statistics of the non-ferrous metal smelting industry were included in manufactures for the first time in 1925. The introduction in 1926 of the use of the gross and net revenue of the central electric station industry as gross and net production and the inclusion of the difference with "cost of materials", impairs the comparability of 1926 and later figures for the "cost of materials" and "net value of products" with those of earlier years.

Subsection 2.—Fourteen Years of Manufacturing in the Industrial Groups.

The commodities required of the manufacturers of a country in time of war differ considerably from those needed in time of peace. Thus, while under the stimulus of inflated values, manufacturing as a whole reached a peak value of gross production in 1920, not exceeded until 1929, the "iron and its products" group reached a high point of gross production in 1918, the last year of the war. The "chemicals and allied products" group reached its greatest development under war conditions, when the value of gross production was more than twice as great as in 1929. On the other hand, the central electric station industry has shown rapid and consistent growth, uninterrupted by changes from war to peace conditions or the consequent drastic changes in price levels, throughout all the years from 1917 to 1930 covered by this record. In the 14 years the gross value of production by this industry has risen from \$44,500,000 to \$126,038,000, while the capital investment has grown from \$356,000,000 to \$1,138,200,000. The "non-ferrous metals" group has also shown striking progress since the war. The statistics for this group are not comparable throughout the 14 years, owing to the fact that the non-ferrous metal smelting and refining industry was included for the first time in 1925. But the gross production of the group in 1924, the last year before the smelters were included, almost equalled that of the peak year 1920, while since 1925 the expansion has been very rapid. As explained concerning Table 1 on p. 312, statistics for the years 1919, 1921, and 1923-1925, given on pp. 411-412 of the 1931 Year Book, are here omitted to economize space.

2.—Summary of Statistics of Manufactures, by Industrial Groups, for typical years, 1917-30.¹

(All establishments irrespective of the number of employees.)

Industrial Group.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$	\$
1917.							
Totals	22,838	2,696,154,030	621,694	509,382,027	1,541,087,416	1,332,180,767	2,873,268,185
Vegetable products.....	3,816	274,722,765	61,288	44,780,329	365,483,923	181,072,143	546,556,061
Animal products.....	5,486	207,165,245	46,994	35,753,133	320,302,039	124,103,990	444,406,079
Textile products.....	1,360	196,823,197	82,639	51,189,000	132,479,763	115,739,096	248,218,859
Wood and paper.....	7,255	537,731,225	153,751	115,137,384	149,927,482	248,986,564	398,914,063
Iron and its products.....	1,404	634,642,989	142,416	140,334,255	357,688,333	334,616,810	692,305,143
Non-ferrous metals.....	296	69,421,911	18,220	15,898,890	46,445,469	41,039,351	87,484,809
Non-metallic minerals.....	1,410	150,328,144	22,284	19,360,952	38,724,530	60,802,754	99,527,284
Chemicals and allied products...	539	175,836,690	56,153	51,505,484	99,068,092	131,381,995	230,450,087
Miscellaneous industries.....	606	93,477,696	29,102	27,644,825	30,967,785	49,901,216	80,869,001
Central electric stations.....	666	356,004,168	8,847	7,777,715	—	44,536,848	44,536,848
1918.							
Totals	22,910	2,926,815,424	618,305	582,457,488	1,829,040,369	1,460,723,777	3,289,764,146
Vegetable products.....	3,824	310,556,340	63,197	49,788,771	409,813,120	188,009,655	597,822,755
Animal products.....	5,493	225,949,731	51,085	40,970,545	348,773,348	131,220,539	479,993,887
Textile products.....	1,394	232,678,413	82,144	54,764,968	182,529,695	137,903,308	320,433,009
Wood and paper.....	7,281	599,594,273	150,732	130,348,989	168,154,574	282,110,061	450,264,635
Iron and its products.....	1,397	631,390,223	127,246	148,361,634	393,204,670	330,388,308	723,592,978
Non-ferrous metals.....	286	78,075,726	17,741	17,635,814	40,988,990	38,406,413	79,395,403
Non-metallic minerals.....	1,264	168,367,861	20,940	20,497,078	56,541,480	56,791,607	113,333,087
Chemicals and allied products...	534	162,912,627	56,391	66,741,341	178,227,423	157,923,196	336,150,619
Miscellaneous industries.....	642	115,347,828	35,956	43,004,106	50,807,069	84,521,557	135,328,626
Central electric stations.....	795	401,942,402	12,873	10,354,242	—	53,449,133	53,449,133
1920.							
Totals	23,351	3,371,940,653	609,586	732,120,585	2,085,271,649	1,686,978,408	3,772,250,055
Vegetable products.....	4,219	394,123,233	72,380	75,695,530	532,484,195	234,317,527	766,801,725
Animal products.....	4,823	221,792,457	48,687	54,291,606	400,496,354	152,995,130	553,491,484
Textile products.....	1,304	302,758,185	87,730	84,433,609	256,233,300	173,741,035	429,974,335
Wood and paper.....	7,867	772,086,812	143,731	171,610,460	308,282,232	415,784,276	724,066,508
Iron and its products.....	1,690	642,904,322	146,204	205,414,599	349,642,666	365,473,097	715,115,766
Non-ferrous metals.....	324	109,382,033	23,162	27,895,343	48,434,120	52,847,178	101,281,290
Non-metallic minerals.....	1,176	223,541,735	27,361	34,406,423	74,200,407	85,216,316	159,416,722
Chemicals and allied products...	464	122,123,730	17,653	22,193,421	62,644,608	65,183,212	127,827,821
Miscellaneous industries.....	665	134,954,504	31,985	41,552,885	52,853,767	75,715,577	128,569,344
Central electric stations.....	819	448,273,642	10,693	14,626,709	—	65,705,060	65,705,060
1922.							
Totals	22,541	3,244,302,410	474,430	510,431,312	1,283,774,723	1,198,434,407	2,482,209,131
Vegetable products.....	4,355	371,361,682	63,217	64,424,922	330,589,052	206,946,749	537,535,899
Animal products.....	5,118	201,829,414	49,595	49,933,679	264,078,631	107,473,382	371,552,619
Textile products.....	1,709	268,065,238	88,048	76,224,361	153,066,593	155,493,510	308,560,190
Wood and paper.....	6,983	761,188,396	118,462	132,084,914	206,682,820	283,131,962	489,814,788
Iron and its products.....	1,040	526,109,953	74,588	90,605,157	168,282,265	163,302,638	331,584,900
Non-ferrous metals.....	325	102,208,275	18,222	21,451,629	30,861,895	39,993,798	70,355,660
Non-metallic minerals.....	1,095	238,691,461	22,468	27,204,642	63,377,262	77,911,159	141,288,422
Chemicals and allied products...	469	118,025,483	14,082	16,770,503	47,039,926	48,904,259	95,944,185
Miscellaneous industries.....	542	88,753,756	15,064	17,236,255	19,796,279	32,948,084	52,744,362
Central electric stations.....	905	568,068,752	10,684	14,495,250	—	82,328,866	82,328,866

¹See note at end of Table 1 on p. 315.

Summary of Statistics of Manufactures, by Industrial Groups, for typical years,
1917-30¹—continued.

(All establishments irrespective of the number of employees.)

Industrial Group.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$	\$
1926.							
Totals	22,708	3,981,569,590	581,539	653,850,933	1,755,158,399	1,492,645,039	3,247,803,438
Vegetable products.....	4,529	449,259,094	73,908	75,349,586	414,316,414	244,004,302	658,320,716
Animal products.....	4,896	223,938,559	67,843	60,203,986	329,114,267	122,920,658	452,034,925
Textile products.....	1,698	317,275,429	100,572	88,596,752	202,832,383	163,502,261	366,334,644
Wood and paper.....	6,751	929,589,278	134,187	160,916,729	261,001,976	339,062,685	600,064,661
Iron and its products.....	1,142	597,982,098	103,510	137,640,065	258,020,373	247,168,476	505,188,849
Non-ferrous metals.....	403	202,503,426	30,095	39,201,147	90,613,004	92,888,739	183,501,723
Non-metallic minerals.....	1,240	261,724,184	26,045	31,986,949	82,293,319	91,863,604	174,156,923
Chemicals and allied products.....	556	133,407,891	14,345	18,309,377	60,124,582	62,464,944	122,589,526
Miscellaneous industries.....	436	109,669,565	17,628	21,703,342	30,307,874	39,835,657	70,143,531
Central electric stations.....	1,057	756,220,066	13,406	19,943,000	26,534,207	88,933,733	115,467,940
1927.							
Totals	22,936	4,337,631,558	618,933	693,932,228	1,780,574,604	1,635,923,936	3,425,498,540
Vegetable products.....	4,793	494,176,054	78,300	81,830,734	429,325,105	283,374,975	712,700,080
Animal products.....	4,692	233,113,872	68,381	61,407,018	325,455,482	132,260,556	457,716,038
Textile products.....	1,802	346,512,165	107,519	95,891,243	198,870,157	183,137,300	382,007,457
Wood and paper.....	6,811	1,023,301,749	150,550	167,995,734	271,780,232	357,786,924	629,567,156
Iron and its products.....	1,148	638,914,893	106,293	143,351,174	261,102,679	264,819,160	525,921,839
Non-ferrous metals.....	401	208,957,166	33,443	44,154,695	87,612,666	112,757,295	200,369,961
Non-metallic minerals.....	1,184	280,032,057	26,662	33,958,541	86,312,529	89,433,536	175,746,065
Chemicals and allied products.....	561	134,618,839	14,559	18,656,851	63,630,588	63,854,084	127,484,672
Miscellaneous industries.....	447	111,178,478	18,518	23,739,922	34,699,896	44,466,809	79,166,705
Central electric stations.....	1,097	866,825,285	14,708	22,946,315	30,785,270	104,033,297	134,818,567
1928.							
Totals	23,379	4,780,296,049	658,023	755,199,372	1,950,804,339	1,819,046,025	3,769,850,364
Vegetable products.....	4,845	531,918,725	83,764	88,119,342	439,922,128	317,073,457	756,995,585
Animal products.....	4,542	243,550,121	67,777	61,950,631	351,324,498	133,697,496	485,021,994
Textile products.....	1,885	365,721,591	113,724	103,451,235	223,730,616	191,671,848	415,402,464
Wood and paper.....	7,290	1,158,651,534	158,005	179,244,698	293,159,913	389,389,952	682,549,865
Iron and its products.....	1,159	702,931,186	119,199	168,320,038	309,618,074	300,014,925	609,632,999
Non-ferrous metals.....	406	253,367,370	35,568	47,497,842	98,746,019	139,220,908	237,966,927
Non-metallic minerals.....	1,178	298,693,122	28,650	37,136,451	93,683,873	112,398,268	206,082,141
Chemicals and allied products.....	572	148,939,920	16,130	20,290,417	74,163,334	72,812,503	146,975,837
Miscellaneous industries.....	453	119,602,877	19,351	25,101,208	35,090,248	50,439,849	85,530,097
Central electric stations.....	1,049	956,919,603	15,855	24,087,420	31,365,636	112,326,819	143,692,455
1929.							
Totals	23,597	5,083,014,754	694,434	813,049,842	2,066,636,914	1,997,350,365	4,063,987,279
Vegetable products.....	5,005	569,064,835	88,858	93,299,665	427,019,724	344,437,941	771,457,665
Animal products.....	4,490	243,825,065	67,670	62,081,423	345,351,882	132,409,973	477,761,855
Textile products.....	1,891	383,153,797	115,620	105,896,237	220,304,250	205,943,337	426,247,587
Wood and paper.....	7,405	1,152,075,234	164,800	192,235,448	314,203,289	411,616,451	725,819,740
Iron and its products.....	1,169	754,989,105	132,281	186,928,700	384,925,660	353,087,320	738,012,980
Non-ferrous metals.....	408	298,721,106	39,867	54,501,806	124,900,632	158,645,034	283,545,666
Non-metallic minerals.....	1,188	329,448,844	31,431	41,511,846	117,149,130	124,874,388	242,023,518
Chemicals and allied products.....	554	165,886,912	16,694	22,639,449	55,184,337	83,360,884	138,545,221
Miscellaneous industries.....	463	130,118,324	21,049	29,123,447	42,982,071	60,091,591	103,073,662
Central electric stations.....	1,024	1,055,731,532	16,164	24,831,821	34,615,939	122,883,446	157,499,385

¹See note at end of Table 1 on p. 315.

2.—Summary of Statistics of Manufactures, by Industrial Groups, for typical years, 1917-1930¹—concluded.

(All establishments irrespective of the number of employees.)

Industrial Group.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$	\$
1930.							
Totals	24,020	5,203,316,760	644,439	736,092,766	1,666,983,902	1,761,986,726	3,428,970,625
Vegetable products.	5,041	569,403,769	84,182	85,259,243	357,510,340	314,513,326	672,023,663
Animal products...	4,341	233,334,972	57,657	55,564,398	285,328,411	132,212,467	417,540,874
Textile products...	1,886	368,567,643	109,576	97,903,096	184,563,865	177,250,868	361,814,783
Wood and paper...	7,816	1,221,357,252	156,724	174,406,889	268,249,293	368,350,618	636,599,911
Iron and its products.....	1,196	757,797,256	119,987	165,429,608	281,713,862	288,032,111	569,745,973
Non-ferrous metals	429	325,605,549	38,756	52,319,027	111,738,411	138,720,310	250,458,721
Non-metallic minerals.....	1,234	336,018,922	29,868	39,241,165	107,206,674	109,606,153	216,812,827
Chemicals and allied products..	591	168,119,152	15,503	21,041,789	48,165,038	71,804,599	119,969,657
Miscellaneous industries.....	452	84,912,229	14,328	17,640,108	22,508,008	35,458,129	57,966,137
Central electric stations.....	1,034	1,138,200,016	17,858	27,287,443	—	126,038,145	126,038,145

¹See note at end of Table 1 on p. 315.

Subsection 3.—Summary Statistics of Manufacturing Production.

Summary Statistics of Manufactures.—In Table 3 will be found an analysis of the most important statistics of manufactures for the eight years from 1922 to 1929 here brought together in order that the tendencies in Canadian manufacturing industries may be traced as clearly as possible through this latest period of their development. Corresponding figures for the years from 1917 to 1922 were given at p. 384 of the 1926 Year Book, but the inflation of values in the war and immediate post-war periods makes the figures for these years largely incomparable. One very important figure, however, where the trend of development proceeds clearly and uninterruptedly throughout the 13 years, is concerned with the use of power. In the analysis here given the aim is to show the position of power as a factor in general manufacturing production. Therefore the power installation of central electric stations has been excluded. Unfortunately this was not done for the earlier years shown in the 1926 Year Book. When this change is made it will be found that the total horse-power employed increased from 1,664,578 in 1917 to 3,867,979 in 1929 or by 132 p.c. in 12 years. In the same period the horse-power used per establishment increased from 75 to 171 and the horse-power per wage-earner from 3.04 to 6.58, indicating the rapidly increasing contribution of power to manufacturing production.

The increases from \$143,929 to \$215,409 in average capital per establishment between 1922 and 1929, and from 21.1 to 29.4 in average number of employees are very significant figures. It is also noteworthy that the percentage of salaried employees to total employees has declined between 1922 and 1929 from 16.0 to 13.9—or approximately from one-sixth to one-seventh. In other words, there were in 1929 six wage-earners employed to each salary earner, as compared with five wage-

3.—Summary Statistics of Manufactures, 1922-29.

(All establishments other than construction and custom and repair industries, irrespective of the number of employees.)

Item.	1922.	1923.	1924.	1925. ¹	1926.	1927.	1928.	1929.
Establishments.....	No.	22,541	22,642	22,331	22,708	22,036	23,379	23,597
Capital.....	\$	3,244,302,410	3,380,322,450	3,538,813,460	3,808,309,981	3,981,569,590	4,337,631,558	5,083,014,754
Average capital per establishment.....	\$	143,929	149,295	159,563	170,538	175,338	189,119	216,409
Average capital per employee.....	\$	6,838	6,435	6,959	6,999	6,486	7,008	7,318
Average capital per wage-earner.....	\$	8,143	7,562	8,186	8,162	7,967	8,131	8,434
Total employees.....	No.	474,430	525,267	508,503	544,225	581,539	618,933	694,434
meat.....	No.	21.1	23.2	22.9	24.4	25.6	27.0	29.4
Total salaries and wages.....	\$	510,431,312	571,470,028	559,884,045	596,015,171	653,850,933	693,932,228	813,049,842
Average salaries and wages per establishment.....	\$	22,645	25,239	25,245	28,590	28,794	32,302	34,456
Average salaries and wages per employee.....	\$	1,076	1,089	1,101	1,095	1,124	1,148	1,171
Employees on sales.....	No.	76,040	78,273	76,230	77,623	81,794	91,343	96,607
Average salaries per employee.....	\$	3.4	3.5	3.4	3.5	3.6	3.7	4.1
Salaries.....	\$	136,219,171	142,738,981	139,614,639	143,058,516	152,705,944	162,348,978	188,747,672
Average salary.....	\$	1,791	1,824	1,831	1,843	1,867	1,899	1,954
Employees on wages.....	No.	398,390	446,994	432,273	466,602	499,745	533,450	597,827
Average number of wage-earners per establishment.....	No.	17.7	19.7	19.5	20.9	22.0	24.3	25.3
Wages.....	\$	374,212,141	428,731,347	420,269,406	452,958,655	501,144,989	531,583,250	624,302,170
Average wage.....	\$	939	959	972	971	1,003	1,024	1,045
Cost of materials.....	\$	1,283,774,723	1,470,140,139	1,438,409,631	1,587,665,408	1,755,158,399	1,789,574,604	2,066,636,914
Average cost of materials per establishment.....	\$	56,953	64,930	64,858	71,097	77,293	83,442	87,580
Average cost of materials per employee.....	\$	2.709	2.801	2.827	2.917	3.018	3.082	3.296
Value added in manufacture.....	\$	1,198,434,407	1,311,025,375	1,256,643,801	1,360,879,907	1,492,648,039	1,635,923,936	1,997,350,365
Average value added per establishment.....	\$	53,167	57,902	56,062	60,941	65,732	71,325	84,645
Average value added per employee.....	\$	2,523	2,494	2,473	2,501	2,567	2,643	2,764
Gross value of product.....	\$	2,482,209,130	2,781,165,514	2,695,063,582	2,948,545,315	3,247,803,438	3,425,498,540	4,063,987,279
Average gross value of product per establishment.....	\$	110,120	122,832	121,519	132,038	143,025	149,350	172,225
Average gross value of product per employee.....	\$	5,232	5,295	5,232	5,418	5,585	5,729	6,283
Power employed.....	H.P.	2,016,563	2,146,903	2,538,535	2,888,164	3,134,248	3,287,582	3,867,979
Average number of horse-power per establishment.....	H.P.	95	99	120	135	145	151	171
Average number of horse-power per wage-earner.....	H.P.	5.14	4.87	5.07	6.29	6.37	6.27	6.58
Piece workers.....	No.	6,095	8,642	7,074	3,735	2,431	2,939	2,288
Earnings of piece workers.....	\$	1,284,337	1,627,055	1,485,422	692,302	466,708	456,766	407,638

¹A change in the method of computing the number of employees in 1925 and later years increased the number somewhat over that which the method previously used would have given. There was therefore a proportionate reduction in the averages for 1925 and later years per employee and wage-earner, as compared to what these averages would have been under the former method.

²The figures of power in this table represent the installation in manufactures exclusive of central electric stations, which are also excluded from the number of establishments and of employees in working out the averages. These figures are thus not comparable with those given on pp. 334-335 in the 1926 Year Book.

³These are piece workers employed outside the establishments and are not included in general statistics of number of employees or of earnings.

earners to each salary earner in 1922. This is probably due to the fact that in the depression of 1920-22, wage-earners, with a less secure tenure of their positions, were laid off to a proportionately much greater extent than salary earners, so that the proportion of salary earners on the 1922 staffs was abnormally large.

Value of Products.—The gross value of manufactured products in 1929 was reported as \$4,063,987,279; the cost of materials was \$2,066,636,914, leaving \$1,997,350,365 as the value added by manufacture. As the finished products of one branch of manufacture are constantly used as materials in other branches in the ascending scale of modern industry, it follows that they are counted over and over again, swelling in this manner the total gross value of products. The total value of manufactured products, strictly defined, would include: (1) the value of all raw materials obtained from the extractive and primary production industries which have entered into the manufacturing output; and (2) the entire value added to these raw materials by manufacturing processes from the time they first entered any factory up to the close of the census year. This total value would be very much greater than the \$1,997,350,365 shown as having been added by manufacture, but not so great as the \$4,063,987,279 shown as the gross value of production. (The decline of \$635,000,000 in gross value of products in 1930 was mainly accounted for by a drop of almost \$400,000,000 in the cost of materials).

Volume of Manufacturing Production in Recent Years.¹—An investigation of the greatest importance, especially in a period when values are rapidly changing (see p. 310, also Chapter XX dealing with price movements), is that of the volume of manufacturing production as distinguished from its value. Since real income is ultimately measured in goods and services, the growth of the volume of manufactures therefore becomes a matter of great importance. The important thing to know is whether consumers are getting more goods and services, not whether they are expending more dollars and cents.

The ever-increasing use of factory products is one of the most significant features of modern life. Its beginnings are sketched in the introduction to this Chapter on pp. 305-309. The process has continued until at the present time fresh fruits and vegetables are about the only articles which reach the consumer without, in some way, being first processed at a factory. Fresh milk is pasteurized and bottled in a dairy plant, fresh fish and meats are dressed principally in packing plants, and the home preserving of fruits and vegetables is being superseded by more efficient processes in the canning factory. Thus even the foods we eat, as well as the clothing we wear, our household conveniences and our instruments of production and transportation are increasingly products of factories. The growing volume of factory production, therefore, measures approximately the total flow of the economic goods upon which the rising standards of modern life so vitally depend.

The statistics of manufactures afford a variety of measures of the growth of factory production. The number of wage-earners, capital invested, value of production and value added by manufacture all show to some extent the direction and volume of growth. The value of production and that added by manufacture being reported in dollars, are influenced by price changes as well as the quantity of goods produced and, as already explained, become misleading under the violent price changes of the past fifteen years. The capital invested is also affected by changing money values, while the relation between capital invested and value of goods produced varies greatly as between one industry and another. Neither i

¹For a much more detailed and comprehensive treatment of this subject see the study "The Physical Volume of Manufactures" by A. Cohen, B. Com., Acting Chief of the Census of Industry, Dominion Bureau of Statistics.

the number of wage-earners employed likely to be a representative measure of changes in the volume of production. The progressively increasing use of machinery and the rise in the power installed per wage-earner (see Table 3) tend to increase the employee's output. Thus while the reported wage-earners in 1929 had increased 3.5 p.c. over the number in 1923, the volume of production is estimated to have increased by 50.2 p.c. in the same period.

In the construction of an independent measure or index of the volume of manufacturing production many difficulties were encountered. There are constant changes in the commodities manufactured and in their relative proportions. New articles are introduced and rapidly come into common use, such as the radio during the past decade, giving rise to quite large new industries and frequently resulting in a decline of previously existing industries. It was very difficult to construct an index which would accurately show changes in manufacturing effort resulting from these changes in production. A second difficulty arose from the fact that many establishments find it difficult to accurately report quantitatively their minor products or by-products, and a few industries find the same difficulty in reporting their major products. In such cases changes in the raw materials used or in the wage-earners employed were used in the construction of the index. A third important difficulty arose from the fact that, even where there was continuity in the kind of commodities produced and where such commodities were reported quantitatively, there have been changes which are not capable of statistical measurement in the quality of the commodities produced. For instance, the motor vehicle of to-day is a very different thing from that of ten or even five years ago. The improvement has entailed increases in plant equipment and workmanship and a generally greater manufacturing effort per unit produced. It is quite obvious that a true index of the volume of production should represent changes in quality as well as quantity. Since this is not possible, and since the trend of modern manufacturing is toward a more elaborate fabrication of materials with consequent improvement in quality and workmanship, it is essential to recognize that an index of volume is likely to understate rather than overstate the growth of manufacturing processes. In spite of these difficulties it is believed that the index in the table which follows is reasonably reliable for the broad groups of industries and may justifiably be used in making generalizations.

The central electric stations were excluded from general manufactures in making the index, since this industry is in a class by itself in the peculiar function of its product, and is also unique in the magnitude of its capital investment and the smallness of its labour force in proportion to its net production. The index is based on the quantities of manufactured products reported and includes 71.1 p.c. of the total value of the production in 1926, exclusive of central electric stations. It is weighted according to the values added in the manufactures of 1926. A complete description of the manner in which the index is constructed will be found in the publication referred to in the footnote on p. 320.

The Growth of Manufactures 1923-29.—The physical volume of manufacturing production, exclusive of central electric stations, increased 50.2 p.c. from 1923 to 1929. When it is recalled that the population of Canada is estimated to have increased only 11.3 p.c. during the same period, the growth of manufacturing production is indeed remarkable. Of this advance, the part resulting from an increase in the domestic demand due to growth of population would be about 11.3 p.c. Exports of partly and fully manufactured goods increased from \$591,830,000 in the fiscal year ended Mar. 31, 1924, to \$690,904,000 in the fiscal year 1930, the increase

in exports representing about 3.6 p.c. of the 1923 production. The remainder of the increase in production by 1929, or a margin equal to roughly 35 p.c. of the volume of manufactures of 1923, was therefore apparently absorbed by the rise in the standard of living of the population of Canada.

By reference to Table 4 below, it may be seen that, with the exception of a slight recession in 1924, the expansion was continuous. As might be expected, all groups did not expand to the same extent during the period covered. In the component material classification, the non-ferrous metal group led with an increase of 90.3 p.c., while the animal products group recorded the lowest increase, *viz.*, 17.5 p.c. Among the purpose groups, the greatest increases were shown by drink and tobacco (84.9 p.c.), vehicles and vessels (84.3 p.c.), house furnishings (74.5 p.c.) and industrial equipment (69.7 p.c.), while the smallest increases were shown by the small group "personal utilities" (19.3 p.c.) and food (21.4 p.c.). This appears to bear out the conclusion of the previous paragraph, for the rise in the standard of living would express itself in the increased consumption of luxuries, such as drink and tobacco, motor cars and house furnishings, and in increased investment in plant and equipment.

4.—Indexes of the Volume of Manufacturing Production, according to Component Material and Purpose Classifications, 1923-29.

Group.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
COMPONENT MATERIAL CLASSIFICATION—							
Vegetable products.....	100.0	109.2	120.8	127.7	137.5	151.1	155.0
Animal products.....	100.0	107.1	113.0	122.9	120.0	123.8	117.0
Textiles and textile products.....	100.0	96.6	103.4	117.8	126.5	135.3	133.0
Wood and paper products.....	100.0	98.1	106.0	119.9	129.1	142.0	152.0
Iron and its products.....	100.0	80.5	95.1	121.7	125.2	138.1	157.0
Non-ferrous metals.....	100.0	108.5	122.8	137.2	158.3	176.1	190.0
Non-metallic minerals.....	100.0	95.8	98.3	112.5	122.5	138.9	163.0
Chemicals and allied products.....	100.0	102.3	109.5	119.0	127.0	139.6	143.0
Miscellaneous industries.....	100.0	108.0	106.0	124.8	138.0	136.5	137.0
Totals, All Industries¹.....	100.0	98.2	107.5	122.2	130.2	141.9	150.0
PURPOSE CLASSIFICATION—							
Food.....	100.0	107.3	114.0	118.1	115.5	122.4	121.0
Clothing.....	100.0	100.1	107.5	120.6	128.6	138.7	138.0
Drink and tobacco.....	100.0	114.6	121.8	131.6	151.3	171.6	184.0
Personal utilities.....	100.0	95.4	102.2	117.1	124.5	125.2	119.0
House furnishings.....	100.0	111.8	109.1	126.7	153.1	158.4	174.0
Books and stationery.....	100.0	83.4	97.6	107.4	119.3	132.0	141.0
Vehicles and vessels.....	100.0	87.1	107.7	140.1	148.9	158.5	184.0
Producers' materials.....	100.0	94.9	103.8	117.8	125.0	138.0	146.0
Industrial equipment.....	100.0	99.7	108.3	131.1	142.6	157.9	169.0
Miscellaneous.....	100.0	104.8	108.4	117.6	124.1	133.4	147.0

¹Exclusive of central electric stations.

The construction of this new index of the volume of manufacturing production has superseded for the years 1923-29 the index shown in Table 4 of this Chapter in former Year Books. The former index, which made no pretense to the reliability of the new one, was made by dividing the gross value of manufactures by the index number of the prices of manufactured goods. The central electric stations were included in the former index, while they are excluded from the new one. However the former index covered the period 1917 to 1923 not covered in the new one and since this earlier period was one of wide fluctuations in money values, the following index numbers are given for the whole period since 1917, using the earlier method but excluding central electric stations, for the years 1917 to 1923 and the new

index, transferred to the 1917 base, from 1923 to 1929: 1917, 100.0; 1918, 102.0; 1919, 98.1; 1920, 95.0; 1921, 86.1; 1922, 96.0; 1923, 101.8; 1924, 102.9; 1925, 112.7; 1926, 128.1; 1927, 136.5; 1928, 148.8; 1929, 57.5.

Consumption of Manufactured Products.—One of the beneficial results of placing the classification of external trade and of production upon a common basis is exhibited in Table 5, where the value of commodities made available for consumption in Canada is derived from the statistics of the two important fields. For example, the value of all manufactured commodities made available in a period approximately corresponding to 1929 was \$4,308,378,487, a figure obtained by adding to the value of manufactured products in 1929 the value of the imports of manufactured and partly manufactured goods during the fiscal year ended Mar. 31, 1930, and deducting the value of the corresponding exports for the same period. In this table more accurate statistics could be presented were it possible to exclude from the gross value of manufactured products the duplications involved when the products of one manufacturing establishment become the materials worked upon in another. Iron, vegetable, textile, wood and paper and animal products were, in that order, the leading groups in the value of finished goods made available for consumption. The large amount of manufactured vegetable products made available for consumption was due to the large domestic production, as the exports and imports were about equal, while manufactures of textiles and iron and steel products, in addition to a large production, showed an excess of imports over exports of \$137,000,000 for textiles and \$228,000,000 for iron and steel products. Wood and paper, animal and non-ferrous metal products were manufactured in Canada in greater quantities than required for home consumption, providing export balances in these groups of commodities.

5.—Consumption of Manufactured Products, by Groups, 1929, with Totals for 1922-28.

NOTE.—Statistics of manufacturing production are for the calendar year. Imports and exports of manufactured and partly manufactured goods are for the fiscal years ended Mar. 31 of the following years.

Group of Industries.	Value of Manufactured Products.	Manufactured and Partly Manufactured Goods.		Value of Manufactured Products Available for Consumption. ¹
		Value of Imports.	Value of Exports.	
	\$	\$	\$	\$
Vegetable products.....	771,457,665	125,010,477	122,902,659	773,565,483
Animal products.....	477,761,855	44,425,795	64,802,581	457,385,069
Textile products.....	426,247,587	144,573,313	7,489,884	563,331,016
Wood and paper products.....	725,819,740	58,882,293	267,006,760	517,695,273
Iron and its products.....	738,012,980	307,066,936	78,571,009	966,508,907
Non-ferrous metal products.....	283,545,666	82,132,716	99,113,024	266,565,358
Non-metallic mineral products.....	242,023,518	69,391,244	8,491,908	302,922,854
Chemicals and allied products.....	138,545,221	39,343,858	22,468,462	155,420,617
Miscellaneous industries.....	103,073,662	68,400,262	20,057,938	151,415,986
Central electric stations.....	157,499,385	96,693	4,028,154	153,567,924
Totals, 1929.....	4,063,987,279	939,323,587	694,932,379	4,308,378,487
Totals, 1928.....	3,769,850,364	915,114,175	719,163,239	4,025,861,300
Totals, 1927.....	3,425,498,540	825,147,919	648,178,000	3,602,468,459
Totals, 1926.....	3,247,803,438	767,022,008	673,709,266	3,341,116,180
Totals, 1925.....	2,948,545,315	671,462,946	695,325,245	2,924,683,010
Totals, 1924.....	2,695,053,582	576,031,243	591,598,478	2,679,486,346
Totals, 1923.....	2,781,165,514	639,343,645	591,829,306	2,828,679,853
Totals, 1922.....	2,482,209,130	574,551,323	515,173,415	2,541,587,038

¹For 1928 and 1929 foreign products imported and later re-exported are eliminated from the value of products available for consumption, but for 1927 and previous years this was impossible since foreign exports for these years had never been analysed as raw materials or partly or fully manufactured goods. Therefore in this table the value of manufactured products made available for consumption, for the years 1922 to 1927 inclusive, is an overstatement by the amount of the foreign exports of manufactured goods in each year, probably varying from about \$11,000,000 in 1922 to \$18,000,000 in 1927.

Section 2.—Production of Industrial Groups and Individual Industries.

One of the factors in the progress of Canada is the possession of many natural resources favourable to industrial growth. It is upon the country's agricultural resources, forests, minerals and wild life that Canada's industries are mainly based. The sea and lake fisheries also make an important contribution of raw materials to the manufacturing industries of the Dominion. Nevertheless, the industrial development of Canada was a matter of small beginnings and gradual growth over a period of many years, and the comparatively small home market, restricted at the present time to a population of about ten millions, a large part of it in scattered agricultural areas, is still one of the difficulties of the situation. Yet Canada is now not merely the second largest manufacturing country in the British Empire; her exports to the other Dominions consist largely of manufactured goods and her exports of manufactured and partly manufactured goods to the United States exceed the exports of raw materials. The rate at which this movement is to continue will depend almost entirely upon growth within the Dominion—upon the further development of the many-sided physical assets of the country.

Subsection 1.—Manufactures Grouped by Chief Component Materials.

A classification based on the chief component materials in the various products of each manufacturing establishment was applied for the first time in the compilation of the returns for 1920. The number of groups was reduced from fifteen to nine to correspond with the external trade classification and the classes of industry were somewhat altered to conform with recent industrial developments. Subsequently the central electric stations industry was taken out of the miscellaneous class and now forms a class by itself.

Vegetable Products.—With the exception of rubber, coffee and spices, sugar factories and rice mills, the industries of this group are dependent mainly upon domestic farm products as raw materials. The milling industry, which has existed to meet domestic needs for more than 300 years, is one of the Dominion's oldest industries, but its greatest expansion has occurred within recent times. The great increase in grain production, which followed the settlement of the western prairies, laid the foundation for this expansion, while the war and the demand it created gave a great impetus to the industry, production of wheat flour in 1918 amounting to 17,881,000 barrels. Productive capacity of the 409 flour mills operating during 1929 reached about 123,000 barrels per day. Since then, the industry has been adversely affected by the difficulties which have beset the Canadian grain trade and the great decline in prices of grains. Production dropped from 19,756,000 barrels in 1929 to 15,624,000 in 1930. Exports of wheat flour declined from 9,573,880 barrels in the calendar year 1929, to 7,514,778 barrels in the following year. The flour manufactured from Canadian hard spring wheat is of very high baking quality and a recovery of purchasing power in Europe and the Orient would contribute toward the return of flour exports to their former volume. Other industries contributing largely to food manufacture are sugar refineries, bread, biscuits, etc., and, to a lesser degree, plants engaged in the canning of fruits and vegetables.

Raw material imported from tropical countries is the basis for an industry of a different character. Canada is now among the leading countries of the world as a manufacturer of rubber goods. Existing plants represented in 1929 a capital of

over \$73,000,000 and gave employment to approximately 17,800 workers receiving \$20,000,000 in wages and salaries and producing goods to the value of \$97,000,000.

The beverage industries—breweries, distilleries and wineries—which are important elements of the vegetable products group, have expanded from a production of \$30,000,000 in 1922 to \$111,000,000 in 1929, owing partly to the modification of prohibition laws in Canada and also to the fact that a large part of their production was exported to the United States. The tobacco industries, another important factor in the vegetable products group, had a total production in 1929 of nearly \$85,000,000.

Animal Products.—Another form of food manufacture—that of slaughtering and meat-packing—has also made great strides. It comes as a surprise to many that slaughtering and meat-packing was until lately at the head of all the industries in regard to the value of the products and in both 1929 and 1930 was surpassed only by that of pulp and paper. Another industry which manufactures a product of farm animals and has been for many years of leading importance in Canada is the butter and cheese industry. Originating in the mixed farming districts of the Maritime Provinces, the Eastern Townships of Quebec and the southern counties of Ontario, it is now developing rapidly in parts of the Prairie Provinces and in the more recent northern settlements of Quebec and Ontario. For an industry so large in the aggregate, it is unique in having shown very little tendency toward consolidation in large units, the gross production of \$127,000,000 in 1929 coming from no fewer than 2,767 plants, mostly small and scattered at convenient points throughout the farming communities. Many of the plants are operated on the co-operative basis. The leather industries also have long been established on a considerable scale, mainly, of course, because the large number of cattle raised and slaughtered provide a ready supply of hides. There are large tanneries in the eastern provinces, and no fewer than 191 boot and shoe factories were in operation in 1929, chiefly in Quebec and Ontario, representing a total capital of over \$31,000,000 with an annual output of \$49,000,000, and employing 15,563 men and women. The canning and preserving of fish also calls for reference. Concentrated naturally upon the Pacific and Atlantic coasts, 730 establishments were engaged in 1929 in the canning, curing and packing of various kinds of fish and the gross value of production was \$35,000,000.

Textiles.¹—Although the production of cotton and woollen fabrics, hosiery, knitted goods, men's and women's clothing and so forth amounted in 1929 to a gross total valued at over \$426,000,000, considerable quantities of yarns and cloth are still imported into Canada. Canadian textile factories are capable of supplying ordinary domestic needs without undertaking the production of the highest grade materials such as are manufactured in Great Britain, where for several centuries hereditary skill has been developed. The net imports of manufactured or partly manufactured textiles during the fiscal year ended Mar. 31, 1930, were \$144,573,313 or 34 p.c. of the gross value of the manufactured product during the calendar year 1929.

While the most important industry in the textile group is the manufacture of cotton yarn and cloth, the products of which in 1929 were valued at over \$78,000,000, the chief development of textile industries in Canada has been in the manufacture of clothing and wearing apparel from both domestic and imported piece goods and yarns. Thus in 1929, if the men's and women's factory clothing, corsets, dyeing,

¹A sketch of the cotton industry, which is the most important of the textile group, is given under the heading of "Typical Individual Manufactures" at p. 429 in the Manufactures section of the Canada Year Book, 1924.

cleaning and laundry work, men's furnishing goods, hats and caps, hosiery, knit goods and fabric gloves, and oiled and waterproof clothing industries be grouped together, the total products amounted to about \$256,000,000 or 60 p.c. of the gross production in the whole textile group, while the net production or value added by the plants in these clothing industries was \$132,000,000 or 64 p.c. of the net value of production by all textile industries.

The woollen industry may be divided into four sections, according as the chief product of value is cloth, yarn, carpets and mats, or miscellaneous goods. Of the 119 plants in operation during 1929, 44 were engaged chiefly in manufacturing cloth, 27 in making yarns, 22 in making carpets and rugs and 26 in making miscellaneous woollen goods. The total value of woollen goods manufactured by the four classes of mills during 1929 amounted to \$35,180,000, as compared with \$34,700,000 in 1928.

Wood and Paper.—An outstanding feature of the general expansion of Canadian commerce since the opening of the century has been the change in the industries associated with forestry which are dealt with in greater detail in Chapter IX on Forestry, pp. 202-14 of this volume. Lumber output has fluctuated greatly, being so largely dependent upon building and construction operations which are themselves subject to wide cyclical fluctuations. Furthermore, the increasing adoption of fireproof types of construction has resulted in a lower lumber consumption in proportion to the total building done. Thus the quantity of lumber sawn in 1911 has never since been equalled, the total being 4,918,000 M board feet compared with 4,742,000 M feet in 1929, the exports amounting to 35 to 40 p.c. of the total in each year. In contrast with this is the progress in pulp and paper production. The census of 1881 recorded only 36 paper and 5 pulp-mills in existence in Canada. In 1929 there were 108 pulp and paper-mills, consuming more than 5,278,422 cords of pulpwood in the year and using hydro power to the extent of about 1,400,000 h.p. Production of wood pulp in 1917 was 1,464,308 tons and in 1929, 4,021,229 tons. Production of newsprint in 1917 was 689,847 tons, in 1921, 805,114 tons, in 1923, 1,252,000 tons and in 1924, 1,388,081 tons. In 1929, the production was 2,725,331 tons, an increase of 13 p.c. over 1928. Included in the totals are hanging and poster papers. Canadian production in 1929 exceeded that of the United States by 1,300,000 tons or 95 p.c., so that Canada now occupies first place among the countries of the world in the production of newsprint paper.

Iron and Steel.—The primary production of iron and steel in Canada has always been handicapped by the fact that nowhere in Canada have workable deposits of coal and iron ore been found in juxtaposition. The nearest approach is in Nova Scotia, where there is an abundant supply of coal, while iron ore is obtained from Newfoundland. In Central Canada, where the secondary iron and steel industries are chiefly located, there are at present neither supplies of coal nor high-grade deposits of iron ore. There is a possibility, however, that high-grade bodies of ore may be found, and eventually the huge reserves of low grade ores now known to exist may be utilized.

Iron ore, which was imported chiefly from Newfoundland and the State of Minnesota, was converted into pig iron in 1929 by the following companies: Steel Company of Canada, Ltd., at Hamilton, Ont.; the Algoma Steel Corporation at Sault Ste. Marie, Ont.; the Canadian Furnace Co. at Port Colborne, Ont.; and the Dominion Iron and Steel Co. Ltd., at Sydney, N.S. These 4 blast furnace plants, together with 25 steel furnaces, 15 rolling mills and one smelter for making

iron-manganese, accounted for a capital of \$109,446,529 and a gross production valued at \$72,231,995. There were, in 1929, no fewer than 1,169 establishments handling iron and steel products, aside from the numerous custom and repair shops engaged in re-conditioning iron and steel goods. The plants represented a capital of \$754,989,105 and had a gross output valued at \$738,012,980. A great deal of this output is represented by agricultural implements, for which there is a large domestic demand, by factory and railway equipment and commercial and passenger motor vehicles. The output of automobiles has increased rapidly in recent years, the total production in 1922 being valued at \$81,956,429, in 1925 at \$110,835,380, in 1926 at \$133,598,456 and in 1929 \$177,315,593, so that this industry has had in recent years a greater production than any other in the iron and steel group and in 1929 stood fourth in gross production among all the industries of Canada. Illustrating the importance of transportation in Canada's economic life, next in the iron and steel group to the manufacture of automobiles was that of railway rolling stock. This industry, although subject to rather wide fluctuations, has for many years held an important place in Canadian manufacture and in 1929 was eighth among all the industries of Canada with products valued at \$126,487,000.

Non-Ferrous Metals.—During 1929 there were 408 plants in Canada manufacturing products from metals other than iron and steel. Employees showed an increase from 18,222 in 1922 to 21,409 in 1923, 27,735 in 1925 and 39,867 in 1929.

One of the leading industries in this group in recent years has been the manufacture of electrical apparatus and supplies; this industry had in 1929 a gross production of \$113,796,002. The industry is showing rapid growth in keeping with the widely increasing development and utilization of hydro-electric energy in Canada. The development of cheap electric power has done much to popularize the use of electrical equipment for both domestic and industrial purposes, and the future demand for such apparatus will probably be limited only by the development of adequate power.

The non-ferrous smelting and refining industry has shown a marked expansion in recent years in keeping with discoveries and developments in the field of mining enterprise. Metallurgical operations have been enlarged at the great smelter at Trail, B.C., and in the Sudbury district of Ontario, while, in addition to the copper smelter at Anyox, B.C., the silver-cobalt plant at Deloro, Ont. and the aluminium plant at Shawinigan Falls already in operation, there have been established within the last decade new copper smelters at Flin Flon and Noranda, new copper refineries at Sudbury and Montreal, and the new aluminium plant at Arvida, on the Saguenay. As a result, there are now 12 non-ferrous metal smelting and refining plants in Canada, and the net production of the industry has increased from \$16,465,000 in 1922 to \$68,438,000 in 1929, while the gross value of the products of this industry has risen in the same period from \$23,637,000 to \$109,854,000.

Another industry of some importance consisted of 102 firms engaged principally in the rolling, casting, and manufacturing of brass and copper, the principal products being castings and machinery fittings, brass steam fittings, plates and sheets, rods, wire and wire cloth. The selling value of the products was \$36,115,581, while the materials used in the process of manufacture were worth \$21,118,038 and the net value of production was therefore about \$15,000,000.

Non-Metallic Minerals.—The recovery in business conditions from 1921 to 1929 is demonstrated by developments in the non-metallic mineral group. The recent expansion is accentuated by the growth of the petroleum products industry,

which in 1929 produced over 40 p.c. of the gross value of the entire production of the group. In 1929 this industry included 10 blending plants and 15 plants for the refining of crude oils. The refining plants were located with a view to economy of distribution, based on the greatest accessibility to the source of supply and the proximity of the markets. The refineries on the eastern and western coasts obtain their crude petroleum from South America, Mexico and the United States by tank steamers, bringing transportation costs to a minimum. Those situated in the centre part of the Dominion absorb the domestic production of crude oil and draw additional supplies from the United States by rail or pipeline. The more general use of the automobile has resulted in a continually expanding demand for gasoline and lubricating oils. The installation of oil-using equipment in industrial plants for generating power and in buildings of various kinds for heating purposes has also increased the consumption of fuel oil.

The coke and gas industry of Canada has developed chiefly along two lines—the one, in the principal centres of population, to provide a gas supply for the residents and the other, in association with blast-furnaces, smelters and metallurgical works, to provide coke and gas for fuel, while some by-product coke plants provide a high-grade coke sized for domestic fuel and competing with anthracite coal. Gas is the most important product of the industry and coke the other chief product, while there are numerous products such as tar, ammonia and ammonium sulphate, light oils, etc.

Other industries of a varied nature included in this group are the manufacture of asbestos products, the glass industry, the manufacture of abrasives, the preparation of ornamental and monumental stone, the bottling of aerated waters and the manufacture of various clay products and cement.

Chemicals.—Recent important developments in Canada's chemical industry centre around the operations of two large companies, namely, Canadian Industries Limited and the Consolidated Mining and Smelting Company.

In June, 1930, the new sulphuric acid plant of Canadian Industries Limited at Copper Cliff, Ontario, commenced operations. This plant utilizes the sulphur in the waste converter gases from the new nickel-copper smelter at that point and has a capacity of about 150 tons of acid per day. In July, 1930, the company opened its new nitre cake works at Copper Cliff; this commodity is used in large quantities in the smelter operations for the separation of nickel and copper and heretofore was mostly imported from the United States. Now the natural sodium sulphate is brought from the extensive lake deposits in Saskatchewan and treated with acid from the new acid works to produce a nitre cake suitable for smelter use. It is interesting to note that the imports of nitre cake declined from 80,872 tons at \$1,081,984 in 1929 to 15,276 tons at \$219,173 in 1930 and 14,258 tons at \$175,641 in 1931 (calendar years).

Another important contribution to Canada's chemical industries was made by the same company at its plant at Sandwich, Ontario, where an addition to the caustic soda works provides for the manufacture of synthetic ammonia, the first to be made in Canada. In the electrolysis of salt brine, liquid chlorine and caustic soda are produced and in the process large quantities of hydrogen are liberated. This formerly went to waste but is now collected and pumped to the ammonia department where it is burned in air and the excess is united under pressure with the remaining nitrogen to make pure liquid ammonia. This plant commenced production in June, 1930.

At Trail, B.C., extensive chemical works are being built by the Consolidated Mining and Smelting Company. The sulphur dioxide in smelter fumes is now utilized to make sulphuric acid which will be used chiefly for making fertilizers. To date operations have been of an experimental nature, but in January, 1931, the first phosphate unit commenced on a commercial basis. The main products will be triple superphosphate, mono-ammonium phosphate and ammonium sulphate, the nitrogen for the last two compounds being obtained from air in a new synthetic ammonia unit.

Canada's chemical industry has shown steady growth during the past decade and its stability is indicated by the fact that during the prevailing economic depression the 1930 output showed a recession of only 13.4 p.c. from the record established in 1929. Production in 1930 was valued at \$119,969,637 as compared with \$138,545,221 in 1929. Allowing for price declines and changes in statistical methods, the 1930 output exceeded the value for any of the years from 1919 to 1927 inclusive.

In 1930 a change was made in the method of compiling statistics for the chemical industry. The re-arrangement of the industries allows for 15 main groups instead of 10 and the values of intermediate products, formerly included, have been omitted. For that year the industries are as follows in order of importance, based on the gross value of output: paints and varnishes; soaps and washing compounds; medicinal and pharmaceutical preparations; acids, alkalies and salts; miscellaneous; explosives, ammunition and fireworks; coal tar distillation; fertilizers; toilet preparations; inks; flavouring extracts; adhesives; polishes and dressings; compressed gases; wood distillation.

Central Electric Stations.—Beginning with 1926, central electric stations have been taken out of group 9—Miscellaneous Industries—and shown as a separate group. The purpose of the separation is to facilitate the presentation of the statistics of the power installed in manufacturing establishments. Practically all other industries produce either wholly finished goods or products which are used as materials for further processes of manufacture. The product of the central electric station industry is not a material in the same sense, but is electrical energy which supplies the power for many of the manufacturing processes, as well as for mining enterprises, electric railways and the various lighting and domestic services. Included in the establishments reported as central electric stations, in addition to the plants where power is generated from water, steam or some other primary source, are numerous distributing plants which buy power at high voltage from the generating establishments and transform and distribute it to local consumers. In such cases, where the distributing stations are separate organizations from the generating system, there is therefore a duplication in the gross revenue reported from the sale of power. The economic function performed by the distributing station is similar to that of a manufacturing industry which transforms materials to meet the requirements of the consumer. Therefore the cost of power purchased by distributing stations is regarded as a cost of material, and a figure of net revenue is taken from which all duplications are eliminated. This treatment has been applied to the figures for 1926 and later years and introduces a slight element of incomparability with figures for previous years.

The principal statistics of each of the manufacturing industries of Canada during 1929 are presented in Table 6 on pp. 330-335.

6.—Statistics of the Numbers, Capital, Employees, Salaries and Wages, Cost of

No.	Group and Industry.	Establishments.	Capital Employed.	Salaried Employees.		
				Male.	Female.	Salaries.
		No.	\$	No.	No.	\$
	Canada.....	23,597	5,083,014,754	73,792	22,815	188,747,671
	TOTALS BY PROVINCES.					
1	Prince Edward Island.....	276	3,489,934	170	36	199,201
2	Nova Scotia.....	1,195	135,662,325	1,381	401	3,073,700
3	New Brunswick.....	860	117,965,970	1,355	384	3,157,674
4	Quebec.....	7,156	1,673,011,042	21,282	5,575	53,383,036
5	Ontario.....	9,910	2,418,340,450	37,777	13,595	101,492,870
6	Manitoba.....	923	173,152,948	3,415	953	8,287,841
7	Saskatchewan.....	761	58,877,124	1,808	337	3,644,445
8	Alberta.....	817	107,648,028	1,878	476	4,185,503
9	British Columbia and Yukon.....	1,699	394,866,933	4,726	1,058	11,323,409
	TOTALS BY GROUPS.					
1	Vegetable products.....	5,005	569,064,835	9,471	2,876	24,659,299
2	Animal products.....	4,490	243,825,065	8,707	1,954	16,921,301
3	Textiles and textile products.....	1,891	383,153,797	6,635	3,391	19,555,354
4	Wood and paper products.....	7,405	1,152,075,234	16,284	4,958	43,373,770
5	Iron and its products.....	1,169	754,989,105	12,363	3,542	33,405,439
6	Non-ferrous metal products.....	408	298,721,106	5,608	2,017	14,285,983
7	Non-metallic mineral products.....	1,188	329,448,844	3,212	763	7,838,950
8	Chemicals and allied products.....	554	165,886,912	3,286	1,280	9,527,532
9	Miscellaneous industries.....	463	130,118,324	2,725	725	7,667,232
10	Central electric stations.....	1,024	1,055,731,532	5,505	1,309	11,512,782
	GROUP 1.—VEGETABLE PRODUCTS.					
	Totals.....	5,005	569,064,835	9,471	2,876	24,659,299
1	Biscuits, confectionery, cocoa, chocolate, etc.....	281	55,320,902	1,723	624	4,603,754
2	Bread and other bakery products.....	2,568	48,969,603	846	428	1,784,165
3	Breweries.....	78	70,390,147	768	116	2,384,411
4	Cigars and cigarettes.....	72	34,025,963	1,009	294	2,374,523
5	Coffee and spices.....	59	15,402,253	445	136	1,210,124
6	Distilleries.....	20	60,211,220	289	72	1,071,775
7	Feed and grist mills.....	916	6,558,329	29	11	53,979
8	Flour mills.....	409	61,215,205	964	206	2,246,183
9	Fruit and vegetable canning, evaporating, etc.....	267	29,331,121	411	145	909,934
10	Ice cream cones.....	10	617,590	8	4	19,212
11	Linseed oil and oil cake.....	8	2,708,387	29	7	94,800
12	Macaroni and vermicelli.....	12	1,843,282	34	11	71,949
13	Malt mills.....	7	8,292,857	62	7	143,190
14	Maple syrup and sugar.....	6	871,925	14	4	45,649
15	Miscellaneous food industries.....	65	11,199,684	238	92	607,603
16	Miscellaneous vegetable products.....	6	4,204,577	22	3	57,111
17	Pickles, vinegar and cider.....	65	9,641,864	159	44	462,620
18	Rice mills.....	4	906,272	15	2	43,201
19	Rubber footwear.....	10	17,179,935	632	205	1,310,303
20	Rubber tires and other rubber goods.....	34	56,697,543	1,119	303	2,846,660
21	Starch and glucose.....	5	5,745,922	51	20	155,544
22	Sugar refineries.....	8	43,534,113	246	61	937,641
23	Syrups.....	11	213,712	7	5	19,168
24	Tobacco, chewing, smoking and snuff.....	37	16,067,061	280	65	1,030,611
25	Wines and grape juice.....	47	7,915,368	71	11	175,069
	GROUP 2.—ANIMAL PRODUCTS.					
	Totals.....	4,490	243,825,065	8,707	1,954	16,921,301
1	Animal hair goods.....	6	747,592	16	7	63,411
2	Animal oils and fats.....	5	862,240	7	5	27,331
3	Belting, leather.....	9	1,553,494	67	16	195,621
4	Boot and shoe findings.....	14	1,465,119	28	4	84,071
5	Boots and shoes, leather.....	191	31,023,229	966	357	2,617,401
6	Butter and cheese.....	2,767	47,907,462	3,526	656	4,646,461
7	Condensed milk.....	30	9,190,753	172	62	385,201
8	Fish curing and packing.....	730	28,044,442	533	77	951,660
9	Fur dressing and dyeing.....	10	1,475,497	60	8	187,411
10	Fur goods.....	224	12,863,189	416	192	1,122,241
11	Gloves and mittens, leather.....	49	3,543,130	155	54	336,171
12	Harness and saddlery.....	195	4,111,709	130	33	234,562
13	Human hair goods.....	3	41,173	1	1	2,171
14	Leather goods, n.e.s.....	40	1,507,757	80	47	224,941
15	Leather, tanned, etc.....	86	27,059,201	237	57	824,041
16	Sausages and sausage casings.....	38	1,156,104	34	8	85,721
17	Slaughtering and meat packing.....	74	67,777,803	2,154	345	4,724,621
18	Trunks, bags, etc.....	19	2,890,171	75	25	208,101

Materials and Value of Products of Canadian Manufacturing Industries, 1929.

Wage-Earners.			Power Installed.	Cost of Fuel.	Cost of Materials.	Values of Products.		C Z
Male.	Fe- male.	Wages.				Net.	Gross.	
No.	No.	\$	H.P.	\$	\$	\$	\$	
468,043	129,784	621,302,170	6,571,738 ¹	64,425,489	2,066,636,914	1,997,350,365	4,063,987,279	
1,175	752	582,247	7,425 ¹	105,290	2,864,831	1,773,894	4,638,725	1
15,580	3,604	14,851,490	179,218 ¹	3,197,287	51,506,523	42,786,293	94,292,816	2
13,123	3,655	12,554,648	174,286 ¹	1,681,023	40,453,635	30,980,431	71,433,966	3
37,369	49,241	180,420,666	2,699,794 ¹	17,613,796	543,240,589	617,372,403	1,160,612,992	4
228,378	60,109	320,296,853	2,211,092 ¹	31,336,962	1,080,106,598	1,022,984,190	2,103,090,788	5
18,076	3,874	25,870,774	360,190 ¹	2,572,661	89,158,381	75,750,746	164,909,127	6
5,412	490	6,794,264	91,118 ¹	2,172,706	51,208,827	29,292,332	80,501,159	7
9,713	1,681	12,274,530	154,749 ¹	1,678,531	63,432,924	44,123,868	107,556,792	8
39,217	6,378	50,656,698	693,866 ¹	4,066,693	144,664,706	132,286,208	276,950,914	9
51,529	24,982	68,640,366	326,346	7,094,888	427,019,724	344,437,941	771,457,665	1
41,209	15,800	45,160,122	101,268	3,232,754	345,351,882	132,409,973	477,761,855	2
42,178	63,416	86,340,883	168,614	3,557,962	220,304,250	205,943,337	426,247,587	3
131,804	11,754	148,861,678	2,022,839	14,431,777	314,203,289	411,616,451	725,819,740	4
113,031	3,345	153,523,211	529,162	11,779,052	384,925,660	353,087,320	738,012,980	5
27,456	4,786	40,215,823	351,752	3,932,473	124,900,632	158,645,034	283,545,666	6
26,526	930	33,672,887	210,804	14,882,045	117,149,130	124,874,388	242,023,518	7
9,890	2,738	13,111,947	83,935	1,841,368	55,184,337	83,360,884	138,545,221	8
15,570	2,033	21,456,214	73,259	658,775	42,982,071	60,091,591	103,073,662	9
9,350	-	13,319,039	5,097,443	3,014,395	34,615,939	122,883,446	167,499,385	10
51,529	24,982	68,640,366	326,346	7,094,888	427,019,724	344,437,941	771,457,665	
4,653	6,073	8,162,122	23,247	580,111	27,717,889	34,774,912	62,492,801	1
13,632	2,117	16,697,444	13,989	1,677,453	38,507,559	38,706,907	77,214,466	2
3,909	46	4,749,838	38,026	595,834	19,135,208	12,125,713	62,260,921	3
1,659	3,420	3,360,727	1,326	41,468	17,012,776	47,318,724	64,331,500	4
680	440	1,095,788	2,996	49,177	21,025,368	6,943,922	27,971,790	5
1,442	416	2,060,721	8,051	640,083	12,928,920	30,823,500	43,752,420	6
1,269	1	809,337	37,015	80,506	20,369,239	3,505,121	23,874,360	7
3,998	140	4,468,779	84,814	495,335	130,437,426	26,836,903	167,274,329	8
2,694	5,469	3,131,372	11,350	321,025	16,641,016	11,318,809	27,959,825	9
57	30	63,632	70	26,046	134,230	372,628	506,858	10
202	1	232,414	1,863	21,566	5,578,539	924,094	6,502,633	11
129	106	143,415	628	6,141	755,576	728,686	1,484,262	12
166	-	268,670	5,144	206,045	4,207,063	2,020,249	6,227,312	13
50	2	44,085	80	7,621	1,661,755	348,472	2,010,227	14
598	280	911,571	5,664	108,688	6,250,354	6,813,121	13,063,475	15
98	11	125,237	1,685	63,234	3,065,079	1,709,956	4,775,035	16
773	679	1,151,559	3,029	140,697	6,183,319	5,889,372	12,072,691	17
40	-	52,144	335	360	1,231,944	190,679	1,422,623	18
4,416	2,772	5,918,013	16,015	165,927	9,532,099	19,825,825	29,357,924	19
6,999	1,350	10,059,520	45,100	553,602	33,408,648	34,168,888	67,576,736	20
418	15	452,994	3,965	198,757	3,641,501	1,863,184	5,504,685	21
1,916	102	2,748,396	19,539	1,032,909	35,640,124	11,511,836	47,151,960	22
20	18	23,355	33	3,140	166,470	127,423	293,893	23
1,157	1,449	1,589,147	1,553	60,455	8,643,755	12,189,951	20,833,706	24
284	45	320,686	820	18,108	3,143,367	2,397,866	5,541,233	25
41,209	15,800	45,160,122	101,268	3,232,754	345,351,882	132,409,973	477,761,855	
76	27	81,984	382	5,837	322,592	465,421	788,013	1
109	4	118,513	333	21,843	310,605	220,281	530,886	2
140	-	163,452	357	8,714	956,174	596,813	1,552,987	3
230	76	224,554	1,498	9,068	643,209	683,679	1,326,888	4
8,652	5,588	12,413,697	7,048	125,416	25,510,731	23,116,859	48,627,590	5
7,449	241	8,062,961	24,945	1,082,533	93,861,458	32,841,737	126,703,195	6
593	47	732,258	3,815	348,149	10,556,545	4,130,257	14,686,802	7
9,493	6,214	4,460,186	12,337	431,425	21,496,859	13,469,401	34,966,260	8
549	103	633,776	658	10,512	227,640	1,688,673	1,916,313	9
1,230	1,209	2,839,892	433	23,441	12,620,177	6,324,549	18,944,726	10
632	864	1,069,625	379	15,937	2,847,839	2,084,695	4,932,534	11
589	48	599,589	568	24,860	1,949,161	1,434,034	3,383,195	12
6	7	12,161	-	-	12,685	16,784	29,469	13
292	326	512,475	157	6,123	1,246,771	1,390,305	2,637,076	14
2,929	90	3,110,836	14,877	350,978	18,065,583	7,741,582	25,807,165	15
201	19	253,523	366	16,020	1,719,842	657,819	2,377,661	16
7,434	829	9,274,034	32,309	735,586	151,814,517	34,028,385	185,842,902	17
605	108	596,606	806	16,312	1,189,494	1,518,699	2,708,193	18

¹ Primary Power; see pp. 365 and 366.

6.—Statistics of the Numbers, Capital, Employees, Salaries and Wages, Cost of

No.	Group and Industry.	Establishments.	Capital Employed.	Salaried Employees.		
				Male.	Female.	Salaries.
		No.	\$	No.	No.	\$
GROUP 3.—TEXTILE PRODUCTS.						
	Totals.....	1,891	383,153,797	6,635	3,391	19,555,374
1	Awnings, tents and sails.....	59	2,299,260	83	38	190,011
2	Bags, cotton and jute.....	20	6,638,759	91	31	319,301
3	Batting.....	8	2,765,650	50	25	195,420
4	Carpets, mats and rugs.....	22	6,446,734	172	43	461,400
5	Clothing, men's factory.....	205	28,493,549	1,009	411	2,596,522
6	Clothing, women's factory.....	461	25,087,862	1,163	792	3,802,002
7	Cordage, rope and twine.....	13	13,066,423	91	22	300,447
8	Corsets.....	17	5,327,991	155	165	386,377
9	Cotton and wool waste.....	7	1,122,818	20	9	65,375
10	Cotton textiles, n.e.s.....	23	1,364,130	52	34	150,004
11	Cotton thread.....	6	4,190,130	73	29	195,223
12	Cotton yarn and cloth.....	36	95,542,319	575	120	1,612,347
13	Dyeing, cleaning and laundry work.....	374	26,839,632	641	436	1,921,309
14	Flax, dressed.....	11	207,964	5	—	6,603
15	Furnishing goods, men's.....	162	19,654,505	600	292	1,579,441
16	Hats and caps.....	152	7,709,270	375	204	1,025,191
17	Hosiery, knitted goods and fabric gloves.....	168	66,489,608	771	491	2,694,065
18	Linen goods.....	3	943,875	14	10	43,622
19	Miscellaneous textiles, n.e.s.....	5	3,101,714	43	7	96,520
20	Oiled and waterproof clothing.....	19	1,186,464	32	17	110,774
21	Silk goods.....	23	28,278,657	255	102	667,600
22	Woollen cloth.....	44	20,016,292	235	73	706,899
23	Woollen textiles, n.e.s.....	26	8,680,289	82	22	277,977
24	Woollen yarns.....	27	7,699,902	48	19	149,099
GROUP 4.—WOOD AND PAPER PRODUCTS.						
	Totals.....	7,405	1,152,075,234	16,284	4,958	43,373,777
1	Beekeepers' and poultrymen's supplies.....	5	71,415	2	1	4,117
2	Blueprinting.....	15	213,085	15	4	35,998
3	Boats and canoes.....	118	2,830,363	69	15	140,566
4	Boxes and bags, paper.....	128	21,176,098	521	209	1,589,744
5	Boxes and packing cases.....	126	11,185,807	238	48	594,222
6	Carriages, wagons and sleighs.....	334	9,794,179	163	32	389,004
7	Carriage and wagon materials.....	6	692,751	14	4	33,998
8	Clothes pins.....	3	235,674	5	—	11,023
9	Coffins and caskets.....	36	3,608,383	64	12	187,822
10	Cooperage.....	82	2,472,749	35	9	107,311
11	Excelsior.....	8	269,866	5	3	5,637
12	Furniture and upholstery.....	367	41,851,682	871	322	2,514,633
13	Lasts, trees and pegs.....	13	1,363,388	48	17	134,611
14	Lithographing and engraving.....	122	21,918,581	703	378	2,649,700
15	Miscellaneous wood products.....	160	5,138,149	112	38	306,944
16	Paper goods, n.e.s.....	40	6,173,098	144	99	470,777
17	Planing mills, sash and door factories, etc.....	744	58,429,558	1,299	247	2,853,222
18	Printing and bookbinding.....	910	43,506,712	1,557	573	4,409,511
19	Printing and publishing.....	767	65,736,238	4,965	1,805	11,478,899
20	Pulp and paper.....	108	644,773,806	3,104	634	9,391,965
21	Roofing paper, wallboard, etc.....	11	7,439,641	156	51	511,222
22	Saw-mill products.....	3,161	181,586,699	1,643	243	3,892,155
23	Sporting goods.....	23	2,022,334	49	27	99,243
24	Stationery and envelopes.....	34	5,179,903	218	97	622,600
25	Stereotyping and electrotyping.....	29	1,494,658	67	29	179,900
26	Woodenware.....	10	1,101,742	32	6	107,565
27	Wood-turning.....	33	1,718,051	38	13	82,077
28	All other industries.....	12	10,090,644	147	42	569,199
GROUP 5.—IRON AND ITS PRODUCTS.						
	Totals.....	1,169	754,989,105	12,363	3,542	33,405,150
1	Agricultural implements.....	62	103,356,773	1,334	431	3,323,377
2	Automobiles.....	17	98,378,301	1,687	603	5,227,600
3	Automobile supplies.....	65	19,401,890	401	129	1,178,744
4	Bicycles and motorcycles.....	3	2,534,749	126	39	201,500
5	Boilers, tanks and engines.....	37	10,665,197	305	60	792,413
6	Castings and forgings.....	336	102,900,796	2,000	647	5,768,141
7	Hardware and tools.....	127	37,334,436	645	238	1,921,322
8	Iron and steel products, n.e.s.....	61	14,719,791	576	100	1,332,411
9	Machinery.....	169	75,226,204	1,822	614	4,700,883
10	Railway rolling stock.....	35	94,415,563	1,521	109	3,633,977
11	Sheet metal products.....	152	49,080,661	997	340	2,530,922
12	Steel and rolled products, pig iron, ferro-alloys, etc.....	45	109,446,529	597	115	1,746,055
13	Wire and wire goods.....	60	37,528,215	352	117	1,048,161

Materials and Value of Products of Canadian Manufacturing Industries, 1929—

Wage-Earners.			Power Installed.	Cost of Fuel.	Cost of Materials.	Values of Products.		No.
Male.	Fe- male.	Wages.				Net.	Gross.	
No.	No.	\$	H.P.	\$	\$	\$	\$	
42,178	63,416	86,340,883	168,614	3,557,962	220,304,250	205,943,337	426,247,587	1
241	208	427,475	241	8,204	1,348,619	1,147,814	2,496,433	2
297	638	701,664	1,178	23,280	10,416,580	2,197,325	12,613,905	3
136	94	222,745	665	15,570	1,623,288	1,088,567	2,711,855	4
696	383	1,002,325	2,115	68,969	2,559,680	2,874,875	5,434,555	5
4,811	5,275	10,774,894	1,401	72,110	25,653,973	24,926,195	50,580,168	6
4,011	11,058	13,826,029	2,993	39,724	34,558,860	31,787,557	66,346,417	7
857	389	1,211,840	7,741	23,250	7,798,893	3,999,272	11,798,165	8
87	998	697,444	346	8,539	2,098,351	2,120,668	4,219,019	9
158	77	232,182	1,051	8,514	1,936,230	708,954	2,645,184	10
107	324	322,971	524	11,550	1,261,764	897,804	2,159,568	11
190	488	493,519	1,965	28,967	2,025,955	2,295,629	4,321,584	12
11,369	8,157	15,058,940	78,221	926,757	43,133,575	35,108,190	78,241,765	13
4,634	6,995	10,026,796	15,109	1,045,153	3,403,667	23,155,618	26,559,285	14
105	—	32,659	369	4,840	27,217	99,045	126,262	15
1,346	7,652	5,740,703	2,199	62,585	17,848,021	12,733,841	30,581,862	16
1,584	2,499	3,422,549	1,649	62,149	7,710,546	7,812,830	15,523,376	17
5,873	12,474	13,600,483	17,773	535,111	31,193,505	29,904,247	61,097,752	18
70	101	118,464	588	8,382	250,735	252,125	502,860	19
153	133	234,363	633	19,568	2,114,317	597,817	2,712,134	20
133	146	284,495	173	7,723	706,706	647,608	1,354,314	21
1,653	2,362	3,158,195	9,563	167,168	6,091,124	8,384,956	14,476,080	22
2,132	1,705	3,217,407	12,202	272,384	9,231,712	7,009,482	16,241,194	23
794	243	900,765	6,812	71,207	3,348,836	3,127,772	6,476,608	24
741	1,017	1,131,976	3,103	66,258	3,962,096	3,065,146	7,027,242	25
31,804	11,754	148,861,678	2,022,839	14,431,777	314,203,289	411,616,451	725,819,740	1
19	—	16,516	45	376	86,143	44,726	130,869	2
65	9	64,489	98	1,957	134,444	237,041	371,485	3
820	8	824,405	1,302	11,029	675,489	1,618,646	2,294,135	4
2,089	2,673	3,868,313	5,741	87,479	12,065,490	10,642,209	22,707,699	5
3,014	279	2,630,039	19,715	27,459	5,214,702	5,142,353	10,357,055	6
2,122	8	2,356,945	721	6,493	5,268,973	4,617,726	9,886,699	7
128	—	140,882	4,686	90,643	330,928	308,179	639,107	8
162	43	119,675	729	264	98,710	329,127	427,857	9
580	99	676,143	2,200	42,893	1,312,374	1,872,964	3,185,338	10
569	3	560,360	1,881	16,326	2,573,766	1,255,787	3,829,553	11
81	24	68,052	545	458	98,224	146,794	245,018	12
11,406	483	11,997,435	20,919	379,881	17,735,090	26,401,086	44,136,176	13
347	154	405,346	892	10,596	246,495	1,083,156	1,329,651	14
3,265	1,321	6,350,426	5,472	74,817	6,544,369	15,137,896	21,682,265	15
1,115	62	1,064,093	3,631	16,977	1,819,664	2,766,793	4,586,457	16
686	206	999,312	3,030	65,216	4,237,803	3,853,129	8,090,932	17
11,473	113	12,112,852	54,131	187,598	31,679,455	24,912,633	56,592,088	18
7,569	2,679	12,285,613	10,252	157,314	13,761,239	29,987,456	43,748,715	19
8,626	1,564	14,928,311	23,083	338,179	16,424,412	57,248,926	73,673,338	20
29,595	869	40,822,544	1,542,197	12,250,518	96,874,749	147,096,012	243,970,761	21
337	6	434,632	1,311	88,543	3,018,273	3,093,390	6,111,663	22
44,501	79	32,265,404	312,643	386,155	83,743,952	63,245,612	146,989,564	23
343	106	406,726	1,047	11,725	943,709	1,240,313	2,184,022	24
436	745	1,022,379	1,027	15,889	4,111,459	2,903,114	7,014,573	25
310	6	505,264	586	14,057	170,616	1,196,036	1,366,652	26
402	22	292,157	760	2,578	425,660	591,870	1,017,530	27
516	84	404,520	2,211	7,898	486,796	970,918	1,457,714	28
1,228	109	1,238,845	1,984	138,459	4,120,285	3,672,559	7,792,844	29
13,031	3,345	153,523,211	529,162	11,779,052	384,925,660	353,087,320	738,012,980	1
9,534	109	11,452,533	26,244	550,228	19,016,981	21,612,498	40,659,479	2
13,922	223	21,637,200	38,074	800,166	120,332,694	56,982,899	177,315,593	3
3,878	300	5,532,692	9,628	207,840	19,045,836	12,919,242	31,965,078	4
386	39	535,849	1,023	20,828	1,132,219	1,338,164	2,470,383	5
1,789	3	2,251,354	7,631	101,185	5,091,406	4,914,872	10,006,278	6
20,467	329	25,086,516	60,112	1,724,305	35,994,441	55,589,705	91,575,146	7
5,507	869	6,496,516	16,342	373,617	9,071,258	18,587,054	27,658,312	8
2,980	8	3,929,881	8,079	71,609	8,451,363	8,700,806	17,152,169	9
9,746	253	12,391,072	34,398	399,970	22,264,416	43,428,123	65,692,539	10
23,823	35	34,677,205	94,054	1,857,096	74,156,037	52,331,000	120,487,037	11
7,085	864	8,697,242	13,338	374,491	28,076,595	25,075,103	53,151,698	12
10,479	27	16,788,661	207,247	5,064,542	32,514,596	39,717,399	72,231,995	13
3,435	286	4,046,496	12,992	233,175	9,777,818	11,869,455	21,647,273	14

6.—Statistics of the Numbers, Capital, Employees, Salaries and Wages, Cost of

COST

No.	Group and Industry.	Establishments.	Capital Employed.	Salaried Employees.		
				Male.	Female.	Salaries.
GROUP 6.—NON-FERROUS METAL PRODUCTS.						
		No.	\$	No.	No.	\$
	Totals.	408	298,721,106	5,608	2,017	14,285,982
1	Aluminium products.	14	5,264,388	70	13	168,482
2	Brass and copper products.	102	27,431,520	891	214	1,917,796
3	Electrical apparatus and supplies.	139	101,767,108	3,503	1,452	8,886,496
4	Lead, tin and zinc products.	28	5,988,683	100	61	270,844
5	Miscellaneous non-ferrous metal products.	17	788,359	446	6	130,837
6	Non-ferrous metal smelting and refining.	10	146,699,085	621	63	1,753,840
7	Precious metal products.	98	10,781,963	377	208	1,157,782
GROUP 7.—NON-METALLIC MINERAL PRODUCTS.						
		1,188	329,448,844	3,212	763	7,838,953
1	Abrasive products.	12	6,683,533	74	27	239,724
2	Aerated and mineral waters.	345	12,756,026	442	95	865,900
3	Asbestos and allied products.	12	2,949,712	48	17	132,884
4	Cement.	11	50,881,818	114	10	260,574
5	Cement products.	153	5,024,497	176	18	335,904
6	Clay products from domestic clays.	196	34,190,056	365	50	941,444
7	Clay products from imported clays.	15	3,472,052	67	24	250,834
8	Coke and gas products.	43	94,749,062	652	237	1,469,344
9	Glass products.	60	16,289,364	290	91	782,024
10	Lime.	53	7,404,677	91	18	158,604
11	Miscellaneous non-metallic products.	23	9,747,157	115	43	389,364
12	Petroleum products.	25	71,260,459	445	65	1,253,184
13	Salt.	8	4,576,543	41	12	102,584
14	Sand-lime brick.	12	2,356,726	23	2	61,694
15	Stone, ornamental and monumental.	220	7,107,162	269	54	596,474
GROUP 8.—CHEMICALS AND ALLIED PRODUCTS.						
		554	165,886,912	3,286	1,280	9,527,504
1	Acids, alkalies, salts.	15	49,417,431	355	26	820,204
2	Adhesives.	13	1,850,273	54	15	140,714
3	Coal tar and its products.	10	4,982,333	26	5	85,114
4	Explosives, ammunition and fireworks.	8	14,493,270	122	8	307,174
5	Fertilizers.	12	2,991,783	36	11	81,794
6	Flavouring extracts.	23	1,644,497	112	45	303,714
7	Gases, compressed.	27	4,995,560	202	90	444,444
8	Inks.	22	2,597,263	107	31	450,774
9	Medicinal and pharmaceutical preparations	140	19,552,949	633	381	2,011,414
10	Miscellaneous chemical industries.	69	12,307,112	296	166	906,574
11	Paints, pigments and varnishes.	69	26,471,976	689	220	2,191,584
12	Polishes and dressings.	29	1,253,657	48	21	133,604
13	Soaps and washing compounds.	61	18,152,849	491	157	1,263,324
14	Toilet preparations.	49	3,121,617	100	104	355,324
15	Wood distillates and extracts.	7	2,054,342	16	—	81,684
GROUP 9.—MISCELLANEOUS INDUSTRIES.						
		463	130,118,324	2,721	725	7,667,284
1	Advertising and other novelties.	11	391,116	19	18	43,884
2	Aeroplanes.	4	1,868,290	36	18	180,684
3	Artificial feathers and flowers.	7	235,161	13	15	34,784
4	Bridge building.	10	28,895,206	921	107	2,599,384
5	Brooms, brushes and mops.	78	4,385,774	187	76	492,884
6	Buttons.	13	1,517,123	41	15	131,484
7	Candles and tapers.	10	536,222	10	3	30,084
8	Fountain pens.	6	1,924,478	72	30	200,114
9	Ice, artificial.	31	4,728,388	39	11	101,484
10	Jewel cases and silverware cabinets.	6	257,076	11	13	30,684
11	Mattresses and springs.	66	8,888,088	214	74	709,984
12	Motion picture films.	6	786,028	54	16	103,884
13	Musical instruments and materials.	42	14,401,537	263	92	707,784
14	Refrigerators.	10	1,411,062	30	12	77,584
15	Regalia and society emblems.	12	225,260	10	12	33,384
16	Scientific and professional equipment.	23	16,143,983	128	76	443,684
17	Shipbuilding and repairs.	41	40,311,341	509	62	1,283,684
18	Stamps and stencils.	30	636,770	57	23	145,584
19	Statuary, art goods and church supplies.	28	738,527	35	19	87,784
20	Store and display fixtures.	3	249,844	12	5	25,384
21	Toys and games.	10	261,881	10	3	22,084
22	Typewriter supplies.	4	640,973	26	14	115,784
23	Umbrellas.	9	536,293	20	11	58,284
24	All other industries.	3	147,903	4	—	8,984
GROUP 10.—CENTRAL ELECTRIC STATIONS.						
		1,024	1,055,731,532	5,505	1,309	11,512,774

Materials and Value of Products of Canadian Manufacturing Industries. 1929—
cluded.

Wage-Earners.			Power Installed.	Cost of Fuel.	Cost of Materials.	Values of Products.		No.
Male.	Female.	Wages.				Net.	Gross.	
No.	No.	\$	H.P.	\$	\$	\$	\$	
27,456	4,786	40,215,823	351,752	3,932,473	124,900,632	158,645,034	283,545,666	1
562	78	761,784	2,605	43,544	2,754,726	1,509,075	4,263,801	2
4,668	459	5,882,805	15,887	348,364	21,118,038	14,997,543	36,115,581	3
12,352	3,564	17,838,729	68,013	656,596	49,623,322	64,172,680	113,796,002	4
501	93	653,451	3,150	60,499	4,757,366	1,708,802	6,466,168	5
142	42	214,432	197	7,625	317,130	798,923	1,116,053	6
7,408	27	12,018,553	258,848	2,757,478	41,416,446	68,438,022	109,854,468	7
1,823	523	2,841,069	3,052	58,367	4,913,604	7,019,989	11,933,593	
26,526	930	33,672,887	210,804	14,882,045	117,149,130	124,874,388	242,023,518	1
721	6	1,031,173	4,197	32,563	2,905,928	6,056,023	8,961,951	2
1,533	104	1,088,455	2,390	80,313	4,576,027	7,673,191	12,249,218	3
264	22	227,146	1,969	54,621	1,348,460	938,178	2,286,638	4
2,422	-	3,263,016	78,732	3,401,750	-	19,337,235	19,337,235	5
1,150	3	1,272,332	2,815	49,907	1,502,952	2,916,465	4,419,417	6
5,115	-	4,785,569	28,357	2,471,317	-	13,904,643	13,904,643	7
698	83	862,046	860	202,793	992,150	2,380,888	3,373,038	8
3,009	4	4,469,467	24,656	2,379,559	18,617,214	21,393,229	39,910,443	9
3,182	385	3,953,650	7,325	1,156,133	5,355,156	10,152,286	15,507,442	10
1,273	-	1,234,488	12,197	1,114,264	-	5,908,610	5,908,610	11
574	250	835,220	9,355	128,552	2,035,905	3,964,792	6,000,697	12
4,444	24	6,900,451	26,591	3,504,202	76,861,939	22,546,375	99,408,314	13
329	42	413,951	937	237,128	-	1,578,086	1,578,086	14
278	1	279,314	1,540	46,100	264,465	689,261	953,726	15
1,534	6	2,451,609	8,883	22,843	2,788,934	5,435,126	8,224,060	
9,390	2,738	13,111,947	83,935	1,841,368	55,184,337	83,360,884	138,545,221	1
2,509	8	3,518,396	51,668	704,732	6,301,121	21,720,851	28,021,972	2
188	10	180,580	982	55,845	962,940	867,704	1,830,644	3
210	1	263,854	283	118,631	2,658,555	1,159,495	3,818,050	4
1,029	286	1,274,186	4,408	154,554	3,960,702	6,868,076	10,828,778	5
204	-	183,883	673	8,373	1,450,253	808,527	2,258,780	6
56	114	132,011	114	7,568	1,013,402	797,494	1,810,896	7
244	6	325,984	6,622	20,091	785,377	3,182,039	3,967,416	8
228	26	334,998	985	13,886	1,097,315	1,940,734	3,038,049	9
789	1,046	1,660,958	1,806	72,315	6,300,894	12,738,000	19,038,894	10
860	417	1,167,047	4,716	80,321	4,289,921	5,818,477	10,108,398	11
1,712	230	2,068,434	6,429	199,223	12,414,829	14,688,636	27,103,465	12
92	55	145,964	133	6,461	630,861	725,362	1,356,233	13
935	271	1,315,183	4,374	230,430	11,002,034	8,216,092	19,218,726	14
1,722	268	312,012	222	7,942	1,577,642	2,873,946	4,451,588	15
229	-	223,457	520	160,996	738,491	954,851	1,693,342	
15,570	2,033	21,456,214	73,259	658,775	42,982,071	60,091,591	103,073,662	1
60	82	98,198	60	279	230,226	311,195	541,421	2
154	9	220,694	198	5,565	727,832	313,013	1,040,845	3
11	76	59,064	8	191	103,792	154,764	258,556	4
3,949	-	6,338,045	19,771	192,281	14,557,679	19,621,809	34,179,488	5
968	254	949,398	1,711	23,098	2,004,893	2,493,033	4,497,926	6
211	191	255,034	543	10,278	278,825	676,431	955,256	7
41	23	40,037	50	5,226	201,902	192,250	394,152	8
144	118	233,042	272	2,154	954,917	1,894,967	2,849,881	9
248	5	307,153	8,277	7,932	76,919	1,405,859	1,482,778	10
62	54	104,276	119	1,411	125,985	227,092	353,077	11
1,365	273	1,763,871	4,415	53,026	5,545,242	5,361,461	10,906,703	12
65	22	124,984	16	1,733	335,902	364,540	700,442	13
2,197	182	2,632,056	5,246	117,847	6,802,758	6,702,480	13,505,238	14
251	4	281,963	666	2,220	537,621	798,969	1,336,590	15
23	42	52,243	22	705	96,608	154,733	251,341	
455	294	815,113	3,203	49,770	3,199,528	4,964,123	8,163,651	1
4,715	11	6,189,259	27,940	164,996	5,607,297	11,885,728	17,493,025	2
195	9	259,125	161	5,389	112,146	627,587	739,733	3
184	176	335,818	144	3,428	444,073	807,610	1,251,683	4
81	6	95,703	86	2,490	158,447	162,947	321,394	5
83	39	86,522	92	2,441	157,411	268,907	426,318	6
43	23	81,381	153	4,847	330,300	377,099	707,399	7
45	131	108,017	36	391	355,688	249,175	604,863	8
20	9	25,188	70	1,077	36,080	75,819	111,899	9
9,350	-	13,319,039	5,097,443	3,014,395	34,615,939	122,883,446	157,499,385	

Subsection 2.—Manufactures Classified by the Purpose of the Products.

Production of Manufactured Goods according to the Purpose Classification.—In addition to the classification according to the chief component material of the products, used for the industrial census in detailed presentation, a separate and distinct classification, based on the chief purpose of the products, was applied for the first time to the census returns of 1922 and is presented for the years 1922 and 1926 to 1928 in summary form, and for 1929 in more detail, in Table 7.

During the period covered by the table, the gross production of the food industries dropped from 27.5 p.c. of the total of all industries in 1922 to 20.6 p.c. in 1929. On the other hand the gross production of the group "vehicles and vessels", which includes automobiles, rose from 6.3 p.c. of the total for 1922 to 10.0 p.c. in 1929. Producers' materials also rose from 26 p.c. to 28.3 p.c., and industrial equipment from 17.1 p.c. to 19.0 p.c. The percentage of the clothing industries remained about stationary, being 8.9 p.c. in 1929 as compared with 9.7 p.c. in 1922.

In analysing the relative standing of the two purpose groups which are perhaps of greatest interest, it is noted that the gross production of the food industries in 1929 was 21 p.c. of the output of Canadian manufacturing concerns, as compared with an output of 9 p.c. for the clothing industries. Aside from the fact that a much larger proportion of its products is exported, the greater production of the food group was in part due to the higher cost of raw materials, the value added by manufacturing being 12.0 p.c. of the total for all industries in the case of the food group and 9.4 p.c. for the clothing group. The clothing industries gave employment to approximately 12,000 more employees than the food industries.

7.—Principal Statistics of the Manufacturing Industries of Canada, Classified according to the Purpose of the Principal Product, by Main Groups for 1922 and 1926¹ and in Detail for 1929.

(All establishments irrespective of the number of employees.)

Purpose Heading.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$	\$
1922, 1, 2							
Totals	22,184	3,125,772,761	462,573	497,113,554	1,280,527,079	1,159,316,687	2,429,843,776
Food.....	8,245	341,662,489	66,444	67,306,446	490,731,438	181,434,270	672,165,772
Drink and tobacco..	496	104,047,461	13,402	13,777,986	33,027,203	66,502,616	99,529,823
Clothing.....	1,279	175,076,687	70,931	65,595,519	118,749,053	117,804,140	236,553,149
Personal utilities....	936	56,060,262	16,904	17,080,049	21,879,031	35,379,445	57,258,471
House furnishings....	600	75,168,053	18,032	19,861,883	24,956,960	38,004,090	62,961,051
Books and stationery	1,557	82,240,691	28,103	36,920,804	27,190,071	71,928,898	99,118,904
Vehicles and vessels..	1,116	158,708,055	26,865	33,488,604	86,057,295	67,020,660	153,077,957
Producers' materials	5,285	1,011,268,819	135,845	139,533,410	316,400,400	319,818,227	636,218,616
Industrial equipment..	2,640	1,116,579,810	85,178	102,487,465	158,571,274	259,472,307	418,043,567
Miscellaneous ²	30	4,960,434	869	1,061,388	2,965,354	1,952,064	4,916,414

¹For details for the years 1922-1928 see previous editions of the Canada Year Book as follows: 1922, p. 393; 1925, p. 410; 1926, p. 396; 1927-28, p. 426; 1929, p. 432; 1930, p. 410; 1931, p. 431.

²In the original compilation of manufacturing statistics for 1922 certain industries, notably ship-building, bridge-building, and some non-metallic mineral industries were excluded. Later these industries were included and the statistics by provinces and groups for 1922 appearing in Tables 1 and 2 were revised accordingly, but a similar revision has not been worked out for the purpose classification.

-Principal Statistics of the Manufacturing Industries of Canada, Classified according to the Purpose of the Principal Product, by Main Groups for 1922 and 1926-28¹ and in Detail for 1929—continued.

(All establishments irrespective of the number of employees.)

Purpose Heading.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$	\$
1926.¹							
Food.	22,708	3,981,569,590	581,539	653,850,933	1,755,158,399	1,492,645,039	3,247,803,438
Food.	8,259	394,159,943	87,343	78,143,619	581,408,701	201,819,393	783,223,094
Drink and tobacco.	574	137,139,189	15,341	16,817,622	45,115,122	85,780,145	130,895,267
Clothing.	1,878	211,149,085	91,215	85,361,018	158,935,630	147,616,042	306,551,672
Personal utilities.	384	50,497,988	10,633	12,470,247	24,236,592	25,487,509	49,724,101
House furnishings.	543	60,277,954	15,684	16,858,549	22,673,689	32,679,963	55,353,652
Books and stationery.	1,716	108,582,186	31,500	43,781,918	34,575,475	81,543,751	116,119,226
Vehicles and vessels.	917	271,239,055	50,731	70,315,673	178,558,815	119,505,351	298,064,166
Producers' materials.	5,807	1,404,509,475	182,599	206,672,939	453,319,993	482,446,753	935,766,746
Industrial equipment.	2,457	1,313,175,892	91,956	118,162,492	240,231,533	302,683,501	542,915,034
Miscellaneous.	173	30,838,823	4,537	5,266,956	16,107,849	13,082,631	29,190,480
1927.¹							
Food.	22,936	4,337,631,558	618,933	693,932,228	1,789,574,604	1,635,923,936	3,425,498,540
Food.	8,306	418,151,619	88,967	81,722,970	586,128,295	216,875,935	803,004,230
Drink and tobacco.	570	160,100,581	16,276	18,312,164	52,850,437	106,706,731	159,557,168
Clothing.	1,988	227,438,240	97,918	91,236,118	161,946,983	166,769,340	328,716,323
Personal utilities.	391	54,029,497	10,754	12,758,956	26,061,404	27,133,729	53,195,133
House furnishings.	553	63,578,269	17,438	19,151,982	26,474,235	36,313,804	68,788,039
Books and stationery.	1,795	120,028,624	33,732	46,913,071	38,755,189	90,338,506	129,093,695
Vehicles and vessels.	872	279,080,400	49,885	70,622,546	174,846,848	124,565,024	299,411,872
Producers' materials.	5,762	1,521,762,956	200,335	219,116,312	450,761,472	519,850,940	970,612,412
Industrial equipment.	2,533	1,460,936,792	99,200	129,147,304	255,618,597	333,530,379	589,148,976
Miscellaneous.	166	32,524,580	4,428	4,950,805	16,131,144	13,839,548	29,970,692
1928.¹							
Food.	23,379	4,780,296,049	658,023	755,199,372	1,950,804,339	1,819,046,025	3,769,850,364
Food.	8,212	440,873,879	90,373	84,096,261	605,692,720	226,907,992	832,600,712
Drink and tobacco.	596	183,028,239	17,806	20,492,585	62,541,589	127,972,285	190,513,874
Clothing.	2,062	242,010,963	104,008	98,069,749	179,344,512	180,265,193	359,609,705
Personal utilities.	390	54,569,674	11,294	12,990,442	26,245,820	30,281,615	56,927,435
House furnishings.	598	72,394,155	19,807	21,811,858	31,753,455	41,567,051	73,350,506
Books and stationery.	1,893	131,944,080	36,156	51,902,487	43,090,386	100,848,835	143,939,221
Vehicles and vessels.	859	296,174,301	58,022	85,268,214	200,180,697	136,215,594	336,396,291
Producers' materials.	6,001	1,729,056,251	210,235	235,816,963	504,241,541	576,706,854	1,080,948,395
Industrial equipment.	2,601	1,595,482,231	105,647	139,693,545	280,923,071	383,193,287	664,116,358
Miscellaneous.	167	34,762,276	4,675	5,057,268	16,790,548	15,057,319	31,847,867
1929.							
Food.	23,597	5,083,014,754	694,434	813,049,842	2,066,636,914	1,997,350,365	4,063,987,279
Food.	8,351	463,984,558	94,707	87,960,036	597,396,238	240,590,146	837,986,384
Foodstuffs.	4,207	183,724,040	37,385	39,631,176	223,360,926	107,136,085	330,497,011
Sh.	730	28,644,442	16,367	5,411,855	21,496,859	13,469,401	34,966,260
Fruits and vegetables.	338	43,177,562	10,778	5,837,839	25,889,414	18,918,137	44,807,551
Meats.	112	68,933,907	11,024	14,337,967	153,534,359	34,686,204	188,220,563
Milk products.	2,797	57,098,215	12,746	13,826,891	104,418,003	36,971,994	141,389,997
Is and fats.	5	862,240	125	145,846	310,605	220,281	530,886
Gar industries.	25	44,619,750	2,445	3,818,294	37,468,349	11,987,731	49,456,080
Fusions.	59	15,402,253	1,701	2,305,912	21,025,868	6,945,922	27,971,790
Miscellaneous.	78	21,522,149	2,136	2,644,256	9,891,855	10,254,391	20,146,246
Drink and Tobacco.	599	201,365,785	18,976	21,670,376	65,440,053	143,528,945	208,968,998
Beverages, alcoholic.	98	130,601,367	7,058	10,266,753	32,064,128	74,949,213	106,013,341
Beverages, non-alcoholic.	392	20,671,394	2,585	3,048,610	7,719,394	10,071,057	17,790,451
Tobacco.	109	50,093,024	9,333	8,355,013	25,656,531	59,508,675	85,165,206
Clothing.	2,054	250,215,736	106,641	100,863,405	176,130,224	186,881,746	363,011,970
Hats and shoes.	201	48,208,164	23,588	22,259,422	35,042,830	42,942,684	77,985,514
Other goods.	234	14,338,686	3,767	4,783,323	12,847,817	8,013,222	20,861,039
Apparel and personal furnishings.	845	78,563,907	39,825	38,904,214	80,159,205	71,568,261	151,727,466
Gloves and mitts.	49	3,543,130	1,705	1,405,800	2,847,839	2,084,695	4,932,534
Hats and caps.	159	7,944,431	4,777	4,541,551	7,814,338	7,967,594	15,781,932
Knitted goods.	168	66,489,608	19,609	16,294,536	31,193,505	29,904,247	61,097,752
Waterproofs.	19	1,186,464	328	395,291	706,706	647,608	1,354,314
Miscellaneous textiles, etc.	379	29,941,346	13,042	12,279,268	5,517,984	23,753,435	29,271,419

For footnote, see opposite page.

7.—Principal Statistics of the Manufacturing Industries of Canada, Classified according to the Purpose of the Principal Product, by Main Groups for 1922 and 1928¹ and in Detail for 1929—concluded.

(All establishments irrespective of the number of employees.)

Purpose Heading.	Estab-lish-ments.	Capital.	Em-ployees	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$	\$
Personal Utilities.	380	56,155,234	11,148	13,595,331	29,389,246	31,802,504	61,191,500
Jewellery and time-pieces.....	104	11,039,039	3,071	4,133,738	5,039,589	7,247,081	12,280,000
Recreational supplies....	75	16,685,752	3,394	3,954,368	7,905,878	8,211,700	16,115,000
Personal utilities, n.e.s.	201	28,430,443	4,683	5,507,225	16,445,779	16,343,723	32,789,000
House Furnish-ings.	600	76,185,921	20,857	23,248,775	34,293,465	43,517,866	77,811,200
Books and Sta-tion-ery.	1,917	141,222,275	38,141	56,003,183	45,384,362	110,563,598	155,947,000
Vehicles and Ves-sels.	781	310,942,038	61,835	91,239,185	243,258,350	164,689,298	407,947,000
Producers' Materials.	6,210	1,772,309,696	222,104	257,233,327	523,139,599	628,251,154	1,151,396,200
Farm materials.....	12	2,991,783	251	265,650	1,450,253	808,527	2,258,000
Manufacturers' materials.....	1,047	1,303,335,995	125,319	162,158,197	336,733,514	430,042,875	766,776,000
Building materials.....	4,531	373,759,219	76,199	73,897,101	149,231,914	153,958,355	303,190,000
General materials.....	620	92,222,699	20,335	20,912,379	35,723,918	43,441,397	79,165,000
Industrial Equipment	2,600	1,771,844,446	116,086	156,651,963	339,197,388	433,129,753	772,327,100
Farming equipment.....	67	103,428,188	11,430	14,796,583	19,103,124	21,687,224	40,790,000
Manufacturing equip-ment.....	182	76,589,592	13,001	17,631,882	22,510,911	44,511,279	67,022,100
Trading equipment.....	79	6,647,091	976	1,273,447	908,038	2,884,687	3,792,100
Service equipment.....	233	40,829,870	5,128	6,446,949	11,592,771	20,747,237	32,340,000
Light, heat and power equipment.....	1,277	1,335,726,852	48,295	69,052,321	185,665,994	236,507,415	422,173,000
General equipment.....	762	211,622,853	37,256	47,450,781	99,416,550	106,791,911	206,208,000
Miscellaneous.	105	32,789,065	3,939	4,584,261	13,007,989	14,395,355	27,403,200

For footnote see p. 336

Subsection 3.—Manufactures Classified by Origin of the Materials.

Classification of Manufacturing Production according to the Origin of the Materials Worked Upon.—The principal statistics of the manufactures of Canada, classified upon the basis of "origin", are presented in Table 8 for the years 1924 and 1927 to 1929. By this means Canadian manufacturing production may be analysed from a new angle, one by means of which interesting comparisons may be made with the external trade classification according to origin.

The distinction made between farm materials of Canadian and foreign origin is based on whether the materials are indigenous to Canada rather than their actual source. Thus the industries included in the foreign origin classes are those depending upon materials which cannot be grown in Canada such as tea, coffee, spices, cane sugar, rice, rubber, cotton, silk, etc., but it should be understood that industries included in the Canadian origin classes may be using large quantities of imported corn, fruit, tobacco, hides, wool, etc.

The manufacturing statistics for 1924 were the first to be analysed upon this origin basis. While the period available for review only covers, therefore, the short space of the five years from 1924 to 1929, interesting changes have taken place in the relative importance of the industries based on materials from the different origins. Since the purpose of such a comparison is to discover the relative impor-

since of the manufacturing work done upon materials from the different origins, the figures of net value of products or the value added to the raw materials by the manufacturing processes will give a more accurate measure of the importance of the industrial groups than the figures of gross value of products. The values added in the manufacture of materials of farm origin, while increasing in amount, have dropped from 30.7 p.c. of the total for all industries in 1924 to 27.7 p.c. in 1929. Similarly, industries of the forest origin group have decreased from 23.8 p.c. in 1924 to 20.5 p.c. in 1929. On the other hand the values added by industries of the mineral origin group have increased from 27.9 p.c. of the total for all industries in 1924 to 35.7 p.c. in 1929. This rapid increase during the period under review in the relative importance of the industries of the mineral group was probably due to a number of influences. The expansion of the motor vehicle industry, the rapid growth in the use of electrical equipment, increasing activity in construction which absorbed large quantities of steel, cement and various other manufactured mineral products, and the development of metallurgical plants in Canada were some factors in the growing importance of the mineral group of industries. Another factor in this trend has been the growing appreciation and development of the wealth of the mineral resources of Canada. Not only have the various mining activities made the raw materials for mineral industries more readily available, but those activities have also required large quantities of machinery, electrical apparatus and other finished products of mineral origin.

In the year 1929, the industries of the mineral group exceeded those of any other group in the net value of products with 35.7 p.c. of the total, as compared with 27.7 p.c. for the farm and 20.5 p.c. for the forest origin groups. These three principal groups stood in the same order of importance with regard to employees engaged and salaries and wages paid. In the matter of capital invested the mineral group also led with 30.5 p.c. of the total, followed by the forest group with 22.6 p.c., central electric stations with 20.8 p.c., and the farm group with 19.6 p.c.

8.—Principal Statistics of the Manufacturing Industries of Canada, Classified according to the Origin of the Material Used, 1924 and 1927-29.¹

(All establishments irrespective of the number of employees.)

Origin.	Estab- lish- ments	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
1924.	No.	\$	No.	\$	\$	\$	\$
Totals	22,178	3,538,813,460	508,503	559,884,045	1,438,109,681	1,256,643,901	2,695,053,582
Farm origin—							
(a) From field crops....	4,595	525,717,571	89,436	87,789,237	433,443,376	258,069,883	691,513,259
Canadian origin.....	4,311	299,158,049	51,462	53,793,131	270,753,367	169,716,464	440,469,831
Foreign origin.....	284	226,559,522	37,974	33,996,106	162,690,009	88,353,419	251,043,428
(b) From animal hus- bandry.....	4,086	253,858,982	64,671	66,696,501	285,502,644	127,504,777	413,007,421
Canadian origin.....	4,068	247,073,900	63,052	65,424,526	282,604,516	125,161,890	407,766,406
Foreign origin.....	18	6,785,082	1,619	1,271,975	2,898,128	2,342,887	5,241,015
(c) Totals, Farm Origin	8,681	779,576,553	154,107	154,485,738	718,946,620	385,574,660	1,104,529,680
Canadian origin.....	8,379	546,231,949	114,514	119,217,657	553,357,883	294,878,354	848,236,237
Foreign origin.....	302	233,344,604	39,593	35,268,081	165,588,137	90,696,306	256,284,443
Wild life origin.....	226	10,837,249	2,944	3,194,213	7,506,169	5,880,097	13,386,266
Larime origin.....	836	20,304,785	11,157	3,344,348	16,089,332	10,548,630	26,637,962
Forest origin.....	6,873	876,149,932	126,907	147,719,245	245,133,429	299,099,168	544,282,597
Mineral origin.....	2,806	1,010,517,944	136,837	171,068,497	349,800,585	350,201,512	700,002,097
Fixed origin.....	1,805	212,861,904	63,723	62,125,420	100,884,146	110,170,066	211,054,212
Central electric stations..	951	628,565,093	12,828	17,946,584	-	95,169,768	95,169,768

¹Corresponding figures for 1925 and 1926 will be found in the 1930 Year Book, p. 412.

8.—Principal Statistics of the Manufacturing Industries of Canada, Classified according to the Origin of the Material Used, 1924 and 1927-29.—concluded.

(All establishments irrespective of the number of employees.)

Origin.	Estab- lish- ments	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Net Value of Products.	Gross Value of Products.
1927.	No.	\$	No.	\$	\$	\$	\$
Totals	22,936	4,337,531,558	618,933	693,932,228	1,789,574,604	1,635,923,936	3,425,498,519
Farm origin—							
(a) From field crops....	4,977	613,855,706	104,850	103,990,849	495,122,606	332,027,953	827,150,549
Canadian origin.....	4,683	358,813,700	58,484	58,483,142	312,675,963	215,539,287	528,215,240
Foreign origin.....	294	255,042,006	46,366	45,507,707	182,446,643	116,488,666	298,935,309
(b) From animal hus- bandry.....	4,007	283,449,879	70,131	73,587,671	336,059,831	151,765,691	487,825,522
Canadian origin.....	3,993	261,122,061	67,241	71,247,700	332,043,200	146,211,405	478,254,605
Foreign origin.....	14	22,327,818	2,890	2,339,971	4,016,631	5,554,286	9,570,917
(c) Totals, Farm Origin	8,984	897,305,585	174,981	177,578,526	831,182,437	483,793,644	1,314,976,081
Canadian origin.....	8,676	619,935,761	125,725	129,730,842	684,719,163	361,750,692	1,006,469,845
Foreign origin.....	308	277,369,824	49,256	47,847,678	186,463,274	122,042,737	308,506,011
Wild life origin.....	244	14,489,527	3,880	4,588,689	13,462,752	9,413,528	22,876,286
Marine origin.....	773	24,454,482	16,697	5,373,951	18,364,846	12,719,763	31,084,609
Forest origin.....	6,770	1,020,144,236	149,738	166,921,458	270,764,265	355,741,746	626,506,011
Mineral origin.....	3,232	1,268,521,442	180,365	239,692,970	497,368,048	528,034,653	1,025,402,791
Mixed origin.....	1,836	245,891,001	78,564	76,830,335	127,466,986	142,187,305	269,834,291
Central electric stations..	1,097	866,825,285	14,708	22,946,315	30,785,270	104,033,297	134,818,547
Totals	23,379	4,780,296,049	658,023	755,199,372	1,950,894,339	1,819,046,025	3,769,850,366
Farm origin—							
(a) From field crops....	5,035	654,648,894	110,502	110,960,496	513,481,501	363,530,939	877,012,450
Canadian origin.....	4,740	398,072,152	62,843	63,285,079	331,757,735	247,558,176	579,315,912
Foreign origin.....	295	256,576,742	47,659	47,675,417	181,723,766	115,972,763	297,696,521
(b) From animal hus- bandry.....	3,946	296,631,572	72,592	76,208,206	365,750,609	153,788,029	519,538,638
Canadian origin.....	3,930	270,471,869	68,659	72,766,657	361,111,892	147,529,473	508,641,365
Foreign origin.....	16	26,159,703	3,933	3,441,549	4,638,717	6,258,556	10,897,273
(c) Totals, Farm Origin	8,981	951,280,466	183,094	187,168,702	879,232,110	517,318,968	1,396,551,078
Canadian origin.....	8,670	668,544,021	131,502	136,051,736	692,869,627	395,087,649	1,087,957,270
Foreign origin.....	311	282,736,445	51,592	51,116,966	186,362,483	122,231,319	308,593,802
Wild life origin.....	237	14,934,287	3,810	4,692,505	14,127,017	9,150,348	23,277,365
Marine origin.....	713	26,941,283	15,434	5,261,096	20,578,767	15,688,965	36,267,732
Forest origin.....	7,241	1,155,561,945	157,153	178,151,066	292,149,341	387,224,205	679,373,540
Mineral origin.....	3,256	1,411,098,815	198,676	272,345,046	574,473,014	620,502,715	1,194,975,729
Mixed origin.....	1,902	263,559,650	84,001	83,493,537	138,878,454	156,834,005	295,712,480
Central electric stations..	1,049	956,919,603	15,855	24,087,420	31,365,632	112,326,819	143,692,456
Totals	23,597	5,083,014,754	694,434	813,049,842	2,066,636,914	1,997,350,365	4,063,987,279
Farm origin—							
(a) From field crops....	5,191	697,206,163	114,236	115,201,292	496,842,580	392,232,666	889,075,240
Canadian origin.....	4,893	436,282,846	67,234	67,235,530	326,292,523	272,019,338	598,311,860
Foreign origin.....	298	260,923,317	47,002	47,965,762	170,550,057	120,213,328	290,763,380
(b) From animal hus- bandry.....	3,873	300,457,360	71,818	76,931,259	361,854,627	160,315,776	522,170,401
Canadian origin.....	3,850	272,178,703	67,446	73,105,463	355,763,503	151,930,820	507,694,331
Foreign origin.....	23	28,278,657	4,372	3,825,796	6,091,124	8,384,956	14,476,068
(c) Totals, Farm Origin	9,064	997,663,523	186,054	192,132,551	858,697,207	552,548,442	1,411,245,641
Canadian origin.....	8,743	708,461,549	134,680	140,340,993	682,056,026	423,950,158	1,106,006,180
Foreign origin.....	321	289,201,974	51,374	51,791,558	176,641,181	128,598,284	305,239,461
Wild life origin.....	234	14,338,686	3,767	4,783,323	12,847,817	8,013,222	20,861,079
Marine origin.....	720	28,644,442	16,367	5,411,855	21,496,859	13,469,401	34,966,293
Forest origin.....	7,353	1,148,558,242	163,863	191,044,307	313,088,964	409,180,102	722,269,095
Mineral origin.....	3,219	1,550,662,908	218,879	304,027,808	678,683,203	713,816,665	1,392,499,800
Mixed origin.....	1,973	287,415,421	89,340	90,818,182	147,206,925	177,439,087	324,646,011
Central electric stations..	1,024	1,055,736,532	16,164	24,831,821	34,615,939	122,883,446	157,499,380

Subsection 4.—The Forty Leading Manufacturing Industries.

The Forty Leading Industries in 1929.—The forty leading industries of Canada in 1929 are given in Table 9, arranged in descending order of gross production. Comparison with 1928, would indicate that there has been a change in the order of the ten leading industries. In 1929, pulp and paper was again in the lead.

with an appreciable increase in production but slaughtering and meatpacking was in second place with a gross production of nearly \$186,000,000. The flour and grist mills, and butter and cheese industries both suffered reductions as regards gross values of production. Automobiles held its previous position, *viz.*, fourth, but with a substantially increased production. Without doubt the most important change was in connection with the railway rolling-stock industry, which rose from thirteenth place in 1928 to eighth place in 1929, and showed an increase in the value of gross production of from \$73,000,000 to \$126,000,000 or nearly 73 p.c. Rubber goods and footwear showed only a slight decline in production, but in 1929 ranked twelfth in importance instead of eighth, as in 1928. Machinery was an industry which showed a more than proportionate advance. In 1928 this industry ranked twenty-fifth with a gross production of \$51,000,000; by 1929 the value of the gross production had risen to \$66,000,000 and the industry occupied the nineteenth place.

The net value of products provides a better measure of an industry's contribution to the national income than gross values do. On the basis of net value, or value added by manufacture, the order of importance of the industries in 1929 was very different from that based on gross values. The pulp and paper industry was foremost in this respect also but it was followed by central electric stations, non-ferrous metal smelting, electrical apparatus, sawmills, printing and publishing, automobiles, castings and forgings, rubber goods, railway rolling stock, cigars and cigarettes, and machinery in the order given.

The central electric station industry represented the greatest investment of capital, while next in order were pulp and paper, sawmills, non-ferrous metal smelting, and iron blast furnaces and steel mills.

As a measure of the employment provided by an industry the salaries and wages paid are probably a better guide than the number of employees reported, especially in industries where operations are seasonal. In the amount of salaries and wages paid the pulp and paper industry came first, being followed by railway rolling stock, sawmills, castings and forgings, automobiles, electrical apparatus and supplies, printing and publishing, central electric stations and rubber goods. Each of these industries paid out, in salaries and wages, amounts in excess of \$20,000,000 during the year.

9.—Principal Statistics of Forty Leading Industries, 1929.

Industry.	Establishments.	Capital.	Employees.	Salaries and Wages.	Cost of Materials.	Values of Products.	
						Net.	Gross.
	No.	\$	No.	\$	\$	\$	\$
Pulp and paper.....	108	644,773,806	34,202	50,214,445	96,874,749	147,096,012	243,970,761
Slaughtering and meatpacking.....	74	67,777,803	10,762	13,998,716	151,814,517	34,028,385	185,842,902
Flour and grist mill products.....	1,325	67,773,534	6,618	7,578,276	150,806,665	30,342,024	181,148,689
Automobiles.....	17	98,378,301	16,435	26,864,808	120,332,694	56,982,899	177,315,593
Central electric stations.....	1,024	1,055,731,532	16,164	24,831,821	34,615,939	122,883,446	157,499,385
Sawmills.....	3,161	181,586,699	46,466	36,157,555	83,743,952	63,245,612	146,989,564
Butter and cheese.....	2,767	47,907,462	11,872	12,709,426	93,861,458	32,841,737	126,703,195
Railway rolling stock.....	35	94,415,563	25,488	38,311,179	74,156,037	52,331,000	126,487,037
Electrical apparatus and supplies.....	139	101,767,108	20,871	26,725,215	49,623,322	64,172,680	113,796,002
Non-ferrous metal smelting.....	10	146,699,085	8,119	13,772,393	41,416,446	68,438,022	109,854,468
Petroleum products.....	25	71,260,459	4,978	8,153,625	76,861,939	22,546,375	99,408,314
Rubber goods, including footwear.....	44	73,877,478	17,796	20,134,501	42,940,747	53,993,913	96,934,660
Castings and forgings.....	336	102,900,796	23,443	30,854,654	35,994,441	55,580,705	91,575,146
Cotton yarn and cloth.....	36	95,542,319	20,221	16,671,787	43,133,575	35,108,190	78,241,765
Bread and other bakery products.....	2,568	48,969,603	17,023	18,481,612	38,507,559	38,706,907	77,214,466
Printing and publishing.....	767	65,736,238	16,960	26,407,204	16,424,412	57,248,926	73,673,338

9.—Principal Statistics of Forty Leading Industries, 1929—concluded.

Industry.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Values of Products.	
						Net.	Gross.
	No.	\$	No.	\$	\$	\$	\$
Steel and rolled products, pig iron, ferro-alloys, etc.	45	109,446,529	11,218	18,534,681	32,514,596	39,717,399	72,231,995
Clothing, women's factory	461	25,087,862	17,024	17,128,421	34,558,860	31,787,557	66,346,417
Machinery	169	75,226,204	12,435	17,091,918	22,264,416	43,428,123	65,692,539
Cigars and cigarettes	72	34,025,963	6,382	5,735,252	17,012,776	47,318,724	64,331,500
Biscuits and confectionery	281	55,320,902	13,073	12,765,876	27,717,889	34,774,912	62,492,801
Breweries	78	70,390,147	4,839	7,134,256	19,135,208	43,125,713	62,260,921
Hosiery, knitted goods and fabric gloves	168	66,489,608	19,609	16,294,536	31,193,505	29,904,247	61,097,752
Planing mills, sash and door factories	744	58,429,538	13,132	14,966,072	31,679,455	24,912,633	56,592,088
Sheet metal products	152	49,080,661	9,286	11,228,170	28,076,595	25,075,103	53,151,698
Clothing, men's factory	205	28,493,549	11,506	13,371,417	25,653,973	24,926,195	50,580,168
Boots and shoes, leather	191	31,028,229	15,563	15,031,101	25,510,731	23,116,859	48,627,590
Sugar refineries	8	43,534,113	2,325	3,686,037	35,640,124	11,511,830	64,331,960
Furniture and upholstering	367	41,851,682	13,082	14,512,073	17,735,090	26,401,086	44,136,176
Distilleries	20	60,211,220	2,219	3,132,497	12,928,920	30,823,500	43,752,420
Printing and bookbinding	910	43,506,712	12,378	16,695,127	13,761,259	29,987,456	43,748,715
Agricultural implements	62	103,356,773	11,408	14,775,889	19,016,981	21,642,498	40,659,479
Coke and gas products	43	94,749,062	3,902	5,938,814	18,517,214	21,393,229	39,910,443
Brass and copper products	102	27,431,520	6,232	7,800,591	21,118,038	14,997,543	36,115,581
Fish-curing and packing	730	28,644,442	16,367	5,411,855	21,496,859	13,469,401	34,966,260
Bridgebuilding	10	28,895,206	4,977	8,937,427	14,547,679	19,621,809	34,179,488
Automobile supplies	65	19,401,890	4,708	6,711,434	19,045,836	12,919,242	31,965,078
Furnishing goods, men's	162	19,654,505	9,890	7,320,145	17,848,021	12,733,841	30,581,862
Acids, alkalis and salts	15	49,417,431	2,897	4,338,686	6,301,121	21,720,851	28,021,972
Coffee and spices	59	15,402,253	1,701	2,305,912	21,025,868	6,945,922	27,971,790
Totals, Forty Leading Industries	17,555	4,144,173,787	523,571	622,715,404	1,685,419,466	1,547,802,512	3,233,221,978
Grand Totals, All Industries	23,597	5,083,014,754	694,434	813,049,842	2,066,636,914	1,997,350,365	4,063,987,279
Percentages of forty leading industries to all industries	74.40	81.53	75.37	76.71	81.55	77.49	79.56

The Forty Leading Industries in 1930.—The completion of part of the compilation of the Census of Manufacturers for 1930 permits the inclusion, as Table 9A, of the forty leading industries in that year. It will be noticed that, compared with 1929, there has been very little change in the order of the ten leading industries when arranged according to gross production although there has been an appreciable decrease in the value of production in nearly every case. In 1930 pulp and paper was again in the lead, followed by slaughtering and meat packing, and flour and grist mill products as in 1929 but central electric stations, which in the earlier year ranked fifth, was in fourth place in 1930. The automobile industry fell from fourth place in 1929 to ninth place in 1930 with a reduction of nearly 43 p.c. in the value of gross production. The electrical apparatus and supplies industry improved its position slightly.

On the basis of net value, or value added by manufacture, the order of importance of the industries in 1930 was very different from that based on gross values. The pulp and paper industry was foremost in this respect also, but it was followed by central electric stations; electrical apparatus; tobacco, cigars and cigarettes; printing and publishing; and non-ferrous metal smelting in the order given.

In salaries and wages paid the pulp and paper industry is followed by: railway rolling stock, sawmills, central electric stations, printing and publishing, and electrical apparatus in the order named.

9 A.—Principal Statistics of the Forty Leading Industries, 1930.

Industry.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Values of Products.	
						Net.	Gross.
	No.	\$	No.	\$	\$	\$	\$
Pulp and paper.....	109	714,437,104	33,207	15,774,976	81,992,255	133,681,991	215,674,246
Slaughtering and meat- packing.....	76	60,778,996	9,290	12,114,667	129,004,327	35,025,626	164,029,953
Flour and grist mill products.....	1,277	62,617,007	5,923	6,679,113	119,677,686	25,178,260	144,855,946
Central electric stations	1,034	1,138,200,016	17,858	27,287,443	—	126,038,145	126,038,145
Sawmills.....	3,531	181,116,933	43,457	28,512,901	72,956,762	48,186,223	121,142,985
Butter and cheese.....	2,698	50,502,406	11,980	13,071,916	80,559,841	32,458,948	113,018,789
Railway rolling stock.....	37	95,785,640	25,952	37,625,050	60,289,445	44,633,256	104,922,701
Electrical apparatus and supplies.....	149	102,979,896	20,568	26,260,004	43,111,629	61,466,161	104,577,790
Automobiles.....	16	90,671,678	12,541	19,473,782	66,924,019	34,753,468	101,677,487
Non-ferrous metal smelting and refining	14	175,010,686	8,626	13,796,124	45,310,472	55,635,664	100,946,136
Petroleum products....	28	70,334,381	5,134	8,190,130	71,800,429	19,986,776	91,787,205
Tobacco, cigars and cigarettes.....	103	51,376,115	8,905	7,837,711	24,286,734	61,385,052	85,671,786
Castings and forgings....	340	100,318,189	20,499	25,871,261	28,262,602	45,971,069	74,233,671
Rubber goods, including footwear.....	47	69,164,512	15,163	15,895,479	28,821,759	44,930,914	73,752,673
Bread and other bakery products.....	2,697	51,914,170	17,736	19,444,533	36,582,843	37,012,051	73,594,894
Printing and publishing	776	66,860,624	17,063	26,937,052	16,993,916	56,019,255	72,013,171
Clothing, women's fac- tory.....	455	23,432,441	16,782	16,483,011	35,759,351	26,056,597	61,815,948
Discounts, confectionery, chocolate, etc.....	280	54,406,093	12,291	11,104,668	25,044,901	33,014,701	58,059,602
Breweries.....	73	67,637,142	4,642	6,756,634	16,534,273	40,986,816	57,521,089
Hosiery, knitted goods and fabric gloves....	167	65,047,351	18,570	15,057,147	25,509,913	28,608,011	54,117,924
Machinery.....	174	69,454,103	11,644	15,089,887	18,326,621	35,422,861	53,749,482
Primary iron and steel.....	49	112,079,926	9,723	14,934,325	22,765,648	29,823,287	52,588,935
Cotton yarn and cloth.....	33	78,542,904	16,999	13,004,793	27,975,574	20,717,304	48,692,878
Sheet metal products....	155	53,368,136	8,728	10,462,887	25,090,342	21,977,137	47,067,479
Sugar refineries.....	8	43,855,155	2,281	3,560,260	30,610,701	12,325,021	42,935,722
Clothing, men's factory	192	26,294,787	10,836	11,542,990	21,533,514	19,285,909	40,819,423
Shoes and shoes, leather	179	28,162,582	13,922	12,858,062	20,521,726	19,957,185	40,478,911
Printing and bookbind- ing.....	905	38,837,176	11,567	15,663,048	11,942,885	25,998,902	37,941,787
Furniture and uphol- stering.....	366	41,495,827	11,980	12,774,596	13,817,450	23,048,745	36,866,195
Loke and gas products.....	41	89,987,235	3,970	5,864,802	17,082,364	19,510,495	36,592,859
Planing mills, sash and door factories.....	728	49,333,121	9,651	10,981,763	19,220,215	17,263,379	36,483,594
Fish-curing and packing	699	30,827,607	10,558	4,302,854	21,081,489	11,891,819	32,973,308
Fruit and vegetable canning, preserving, etc.....	249	35,119,475	9,137	4,155,595	19,816,763	11,641,652	31,458,415
Agricultural imple- ments.....	57	98,684,828	7,405	9,564,049	11,353,523	-15,548,616	26,902,139
Bridge and structural steel work.....	13	28,922,951	4,943	8,686,062	12,549,435	13,506,348	26,055,783
Dyeing, cleaning and laundry work.....	387	28,351,092	12,732	12,141,767	2,807,911	22,664,753	25,472,664
Brass and copper pro- ducts.....	117	26,820,527	5,297	6,742,752	13,355,186	12,057,039	25,412,225
Furnishing goods, men's	158	17,507,012	8,965	6,437,718	14,790,909	10,363,401	25,154,310
Distilleries.....	15	61,533,825	1,965	2,435,934	6,616,520	18,309,341	24,925,861
Paints, pigments and varnishes.....	78	26,212,828	2,835	4,307,998	11,094,435	12,872,067	23,966,502
Totals, Forty Leading Industries.....	18,510	4,278,072,371	500,725	569,675,744	1,350,776,368	1,365,214,245	2,715,990,613
Grand Totals, All In- dustries.....	21,020	5,293,316,769	614,439	736,092,766	1,666,983,902	1,761,986,726	3,428,970,628
Percentages of forty leading industries to all industries.....	77.06	82.22	77.70	77.39	81.03	77.48	79.21

Section 3.—Provincial Distribution of Manufacturing Production.

Ontario and Quebec are the most important manufacturing provinces of Canada. Their combined production in 1929 amounted to \$3,264,000,000, or over 80 p.c. of the gross value of manufactured products of the Dominion. Of this amount Ontario contributed \$2,103,000,000 and Quebec \$1,160,000,000. The proximity of Ontario to the coal fields of Pennsylvania, the water-power resources of the two provinces and their nearness to the larger markets of Canada and the United States have all contributed to the above result. British Columbia had, in 1929, the third largest gross manufacturing production, \$277,000,000, and Manitoba the fourth \$165,000,000. Alberta, Nova Scotia, Saskatchewan and New Brunswick followed in that order with gross production from \$107,557,000 to \$71,434,000, succeeded by Prince Edward Island with \$4,639,000.

Subsection 1.—The Manufactures of the Maritime Provinces, 1929.

Table 10 contains statistics of the ten leading industries of each of the Maritime Provinces for the year 1929. In Prince Edward Island the manufacture of butter and cheese, with a gross production in 1929 of \$1,096,630, was the leading industry followed by fish-curing and -packing, with a gross production of \$870,876. Manufacturing in Nova Scotia and New Brunswick is, of course, to a considerable extent dominated by the steel industry in the former and the forest industries in the latter although there is a large sugar refinery in each province. Fish-curing and -preserving, the manufacture of biscuits and confectionery, electric light and power production, and butter and cheese making are also of considerable relative importance. The sawmilling industry of New Brunswick, with a gross value of products in 1929 of \$12,164,604, provided over 8 p.c. of the total of the gross production of the industry throughout the Dominion and if the pulp and paper mills in New Brunswick with production of \$10,106,069 be added these two forest industries provided 31 p.c. of the gross manufacturing production of the province.

10.—Statistics of Ten Leading Industries of each of the Maritime Provinces, 1929.

NOTE.—Other leading industries, statistics of which cannot be given because there are fewer than ten establishments in each industry, are: in Prince Edward Island, tobacco and cigars, coffins and caskets, slaughtering and meat-packing and railway rolling stock; in Nova Scotia, petroleum, sugar refinery, coke and gas, and wire products; in New Brunswick, sugar refineries and railway rolling stock. Statistics for these industries are included in the grand totals.

PRINCE EDWARD ISLAND.

Industry.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Product
	No.	\$	No.	\$	\$	\$
Butter and cheese.....	38	273,648	114	74,942	912,728	1,096,630
Fish-curing and packing.....	100	179,968	1,264	103,748	631,140	870,876
Printing and publishing.....	4	250,808	104	88,800	29,162	204,876
Central electric stations.....	12	821,340	39	45,067	448	202,876
Flour mills.....	17	107,132	19	11,308	157,020	196,876
Bread or other bakery products...	7	74,139	33	25,104	98,157	191,876
Castings and forgings.....	3	329,759	67	58,248	74,553	185,876
Sawmills.....	51	150,456	83	18,977	87,336	139,876
Totals, Eight Leading Industries	232	2,187,250	1,723	426,194	1,990,544	3,089,876
Grand Totals, All Industries...	276	3,489,934	2,133	781,448	2,864,831	4,638,876

10.—Statistics of Ten Leading Industries of each of the Maritime Provinces, 1929—
concluded.

NOVA SCOTIA.

Industry.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Steel and rolled products, pig iron, ferro-alloys, etc.....	6	28,626,944	2,150	3,352,388	7,789,915	16,044,488
Fish-curing and packing.....	242	3,805,820	4,086	1,238,813	5,440,337	8,216,653
Railway rolling stock.....	3	6,803,113	942	1,243,376	6,115,282	8,706,782
Central electric stations.....	80	16,094,608	618	725,001	725,468	3,813,379
Biscuits, confectionery, chocolate, etc.....	11	4,684,463	1,233	1,111,542	1,534,703	3,588,769
Sawmills.....	352	2,195,120	2,470	658,922	1,764,159	3,205,217
Butter and cheese.....	31	1,144,610	287	299,662	2,105,660	2,983,026
Shipbuilding and repairs.....	13	11,663,585	792	905,775	728,191	2,253,372
Hosiery, knitted goods and fabric gloves.....	3	3,713,979	613	437,997	1,145,646	2,238,550
Printing and publishing.....	32	2,292,598	665	901,568	414,774	2,047,368
Totals, Ten Leading Industries.	773	81,024,840	13,856	10,875,044	27,764,335	53,097,604
Grand Totals, All Industries.	1,195	135,662,325	20,966	17,925,190	51,506,523	94,292,816

NEW BRUNSWICK.

Sawmills.....	253	25,150,827	4,731	2,888,813	7,664,967	12,164,604
Pulp and paper.....	5	23,554,200	1,587	1,824,957	4,995,425	10,106,069
Fish-curing and packing.....	155	1,729,695	2,135	438,338	2,129,700	3,388,536
Cotton yarn and cloth.....	4	6,378,203	1,622	1,242,563	1,861,248	3,333,521
Coffee and spices.....	5	1,871,490	146	168,320	2,492,883	2,894,191
Central electric stations.....	41	26,215,709	327	389,927	608,312	2,816,978
Biscuits, confectionery, chocolate, etc.....	8	2,282,364	684	556,265	1,343,458	2,746,065
Slaughtering and meat-packing....	8	795,121	195	189,131	1,793,490	2,275,489
Butter and cheese.....	36	946,310	189	197,817	1,261,826	1,926,278
Castings and forgings.....	11	2,236,967	583	715,202	658,687	1,714,565
Totals, Ten Leading Industries.	526	91,160,826	12,199	8,611,333	24,809,996	43,366,296
Grand Totals, All Industries.	860	117,965,970	18,517	15,712,322	40,453,535	71,433,966

Subsection 2.—The Manufactures of Quebec, 1929.

The pulp and paper mills of Quebec, the most important manufacturing unit in the province, produced goods to the gross value of \$129,745,028 in the calendar year 1929. This exceeded by nearly \$59,000,000 the gross value of the products of the railway rolling-stock works (\$70,802,392), which was followed by the cotton yarn and cloth mills (\$59,147,128), and the manufacture of cigars and cigarettes

(\$55,179,216). These four industries were followed in order of gross value of products by the generation of electric light and power, the manufacture of men's clothing, of women's clothing and of leather boots and shoes.

The importance of the pulp and paper industry in Quebec is shown by a comparison with the industry throughout the Dominion. The Quebec industry, in addition to supplying over 11 p.c. of the total gross value of all products manufactured in the province, furnished nearly 53 p.c. of the products of pulp and paper mills throughout the country. The gross value of cotton yarn and cloth products from Quebec mills formed over 75 p.c., the gross value of cigars and cigarettes formed 86 p.c., the value of railway rolling stock 56 p.c., and the value of the boot and shoe products (the eighth industry in order of value of products) over 60 p.c. of the Dominion totals for these products. Thus Quebec is an outstanding manufacturing province rather on account of her great individual industries than because of the diversification of her industrial activities.

11.—Statistics of Forty Leading Industries of the Province of Quebec, 1929.

NOTE.—Leading industries having fewer than 3 establishments are sugar refineries, cement and bridge-building.

Industry.	Estab-lish-ments.	Capital.	Em-ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Pulp and paper.....	49	353,401,187	17,862	25,933,911	49,805,089	129,745,028
Railway rolling stock.....	10	43,636,555	13,206	20,021,926	43,001,821	70,832,292
Cotton yarn and cloth.....	17	65,026,747	13,688	11,214,572	32,787,887	59,147,128
Cigars and cigarettes.....	36	27,644,106	5,187	4,635,072	14,429,042	55,179,216
Central electric stations.....	135	421,000,578	3,975	5,911,495	5,411,978	46,322,046
Clothing, men's factory.....	135	16,330,341	6,762	7,448,670	16,439,146	31,700,470
Clothing, women's factory.....	201	10,793,765	7,242	7,019,490	18,045,605	30,607,476
Boots and shoes, leather.....	112	18,266,739	9,745	9,222,767	15,513,386	29,395,381
Butter and cheese.....	1,389	8,331,727	2,264	1,492,492	23,044,923	29,172,614
Sawmills.....	1,044	41,289,126	9,980	4,935,878	18,392,483	28,342,626
Slaughtering and meat-packing.....	17	9,146,898	1,782	2,201,674	22,420,616	27,216,918
Electrical apparatus and supplies.....	13	30,623,918	6,709	8,611,716	12,970,651	27,204,759
Flour and feed mills.....	361	10,637,319	1,084	1,205,594	21,545,487	25,554,977
Non-ferrous metal smelting.....	3	40,251,596	1,607	2,130,224	9,218,355	24,996,120
Breweries.....	7	22,187,320	1,607	2,172,972	6,769,271	22,401,689
Bread and other bakery products.....	854	14,035,072	4,724	4,920,908	10,739,904	21,198,384
Distilleries.....	7	18,579,738	895	1,076,020	4,919,884	20,312,104
Rubber goods, including footwear.....	9	11,413,442	5,333	4,632,452	6,532,300	19,956,106
Castings and forgings.....	71	25,680,148	4,701	5,740,774	7,959,921	19,568,894
Tobacco, chewing, smoking, etc.....	30	15,212,658	2,711	2,437,461	7,354,296	19,252,553
Petroleum products.....	6	15,045,987	1,013	1,708,916	16,040,711	19,087,138
Machinery.....	28	24,086,518	4,387	5,971,919	6,613,086	17,645,571
Printing and publishing.....	65	15,747,157	4,406	5,976,421	4,087,217	17,161,735
Biscuits, confectionery, chocolate, etc.....	54	12,115,138	3,609	2,967,460	7,766,807	15,450,474
Planing-mill products.....	276	14,378,644	3,585	3,539,829	8,657,671	14,864,724
Hosiery, knitted goods and fabric gloves.....	41	14,331,947	4,413	3,223,635	7,006,870	13,441,316
Furnishing goods, men's.....	76	8,421,608	4,847	3,057,236	7,683,187	12,902,611
Printing and bookbinding.....	257	11,374,193	3,398	4,403,873	3,512,562	11,223,448
Sheet metal products.....	19	10,497,493	2,156	2,451,635	5,837,051	10,726,363
Paints, pigments and varnishes.....	18	13,258,165	1,106	1,522,376	4,890,188	10,482,085
Steel and rolled products, pig iron and ferro-alloys.....	13	11,765,863	2,624	3,569,143	2,670,576	10,344,845
Acids, alkalis and salts.....	3	17,432,387	990	1,360,506	2,736,873	9,670,190
Shipbuilding and repairs.....	5	12,064,335	2,604	3,942,708	2,568,429	9,428,453
Silk and silk goods.....	12	18,368,727	2,569	2,132,391	3,620,406	8,327,576
Furniture, upholstered goods.....	71	5,934,651	2,582	2,772,333	3,190,275	8,006,568
Dyeing, cleaning and laundry work.....	79	8,633,980	3,418	3,157,116	1,181,254	7,815,698
Fur goods.....	77	6,350,380	1,417	1,762,253	5,296,166	7,746,570
Hardware and tools.....	27	13,700,716	1,494	1,629,400	2,231,743	7,624,672
Brass and copper products.....	20	7,526,075	1,677	2,326,293	3,205,289	7,273,691
Wire and wire goods.....	11	9,591,832	1,214	1,395,467	3,304,501	7,141,273
Totals, Forty Leading Industries	5,663	1,451,114,676	174,473	191,836,978	449,102,907	964,441,892
Grand Totals, All Industries	7,156	1,673,011,042	213,467	233,803,672	543,240,589	1,166,612,992
Percentages of forty industries to grand totals.....	79.2	86.9	81.7	82.0	82.7	83.1

Subsection 3.—The Manufactures of Ontario, 1929.

Ontario is the most important manufacturing province of the Dominion. The gross value of its manufactured products in 1929 represented nearly 52 p.c. of those of the whole Dominion, while those of Quebec, the second province in importance in this respect, amounted to about 29 p.c. This premier position in manufacturing has been fairly uniformly maintained by Ontario over a long period, as the following percentages show: in 1926, 52 p.c.; 1920, 50 p.c.; 1918, 53 p.c.; 1910, 50 p.c.; 1900, 50 p.c.; 1890, 51 p.c. and 1880, 51 p.c. Thus, in spite of the rapid industrial development in recent years in other provinces such as Quebec, British Columbia and Manitoba, Ontario is maintaining a manufacturing production more than equal to that of the remainder of the Dominion.

The automobile manufacturing industry of Ontario in 1929 came first in the value of its products. This amounted to \$166,032,688 as compared with \$94,-916,855 for the slaughtering and meat-packing industry, which held second place. Other important industries in descending order, with the value of their products in 1929, were: flour and grist mills, \$94,233,270; electrical apparatus and supplies, \$85,415,684; and pulp and paper, \$82,352,183. As compared with 1928, automobile manufacturing showed an increase of nearly \$4,000,000, and slaughtering and meat packing of over \$4,000,000, electrical apparatus and supplies of over \$13,000,000 and pulp and paper of \$8,000,000, while flour and grist mills decreased about \$12,000,000 from the figures for 1928.

Indicating the greater diversification of industry in Ontario as compared with Quebec, the percentages which the 40 leading industries bear to the total manufactures of the province are higher in nearly every particular in Quebec than in Ontario, especially in the capital employed and the number of establishments and employees. Outstanding among the industries in which the province of Ontario is pre-eminent is that of automobile manufacturing, which is carried on practically in this province alone. Other important industries in which Ontario leads, with the percentage which the production of each bore to that of the Dominion in 1929, are as follows: agricultural implements, 96 p.c.; leather tanneries, 87 p.c.; rubber goods, 79 p.c.; furniture and upholstery, 76 p.c.; fruit and vegetable canning, preserving, etc., 62 p.c.; electric apparatus and supplies, 75 p.c.; castings and forgings, 69 p.c.; steel and rolled products, pig iron, etc., 61 p.c.; slaughtering and meat-packing, 51 p.c.; flour and grist mill products, 52 p.c.; hosiery, knitted goods, etc., 71 p.c.

12.—Statistics of Forty Leading Industries of the Province of Ontario, 1929.

Industry.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Automobiles.....	11	90,922,872	15,138	24,773,644	111,481,435	166,032,688
Slaughtering and meat-packing....	25	33,772,742	4,635	6,278,579	77,329,864	94,916,855
Flour and grist mills.....	717	31,415,725	3,279	3,536,731	80,544,323	94,233,270
Electrical apparatus and supplies	101	70,220,476	13,923	17,574,566	36,107,383	85,415,684
Pulp and paper.....	41	207,005,896	11,023	16,406,693	35,887,813	82,352,183
Rubber goods, including footwear.	33	61,881,704	12,374	15,392,963	36,161,259	76,324,660
Central electric stations.....	423	422,486,669	6,890	11,113,872	22,694,349	73,869,083
Castings and forgings.....	189	64,333,369	15,701	20,996,669	24,811,149	63,193,202
Butter and cheese.....	983	23,234,379	6,289	6,970,664	44,604,112	69,734,140
Non-ferrous metal smelting and refining.....	5	47,359,251	3,400	5,402,213	11,615,103	48,899,838
Machinery.....	120	49,279,134	7,690	10,618,220	15,033,682	46,225,251
Steel and rolled products, pig iron and ferro-alloys.....	18	66,941,099	5,915	10,985,718	21,591,863	43,739,532

12.—Statistics of Forty Leading Industries of the Province of Ontario, 1929—
concluded.

Industry.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Hosiery, knitted goods and fabric gloves.....	109	46,573,355	13,994	12,170,938	22,089,753	43,606,687
Agricultural implements.....	39	100,115,590	10,849	14,185,440	18,418,146	38,940,791
Petroleum products.....	9	27,228,752	2,341	3,731,654	26,878,563	36,058,625
Bread and other bakery products.....	1,007	21,158,759	7,947	8,854,267	17,576,925	35,546,107
Biscuits, confectionery, cocoa and chocolate.....	124	31,253,372	6,294	6,798,724	14,303,333	34,357,397
Furniture and upholstered goods.....	213	33,583,752	9,617	10,797,914	13,438,691	33,568,577
Printing and publishing.....	302	30,763,260	7,179	11,333,786	7,799,308	32,796,257
Sawmill products.....	887	49,952,290	10,523	7,460,556	18,586,171	32,743,346
Clothing, women's factory.....	219	13,091,553	8,783	9,232,035	14,568,710	32,499,643
Sheet metal products.....	84	26,669,539	5,559	6,622,199	16,871,313	32,430,631
Automobile supplies.....	42	18,918,196	4,453	6,371,778	18,729,655	31,226,312
Planing-mill products.....	315	30,677,143	6,083	7,120,071	16,714,267	28,247,225
Brazes and copper products.....	65	17,886,997	3,819	4,728,149	16,323,011	25,737,217
Coke and gas products.....	21	49,142,427	2,512	3,816,994	11,035,200	25,294,463
Printing and bookbinding.....	413	22,916,083	6,237	8,466,313	7,349,809	23,349,466
Leather, tanned, etc.....	35	22,626,588	2,726	3,263,814	16,036,618	22,374,209
Distilleries.....	8	33,970,531	1,080	1,743,158	6,617,718	21,422,749
Breweries.....	36	23,253,458	6,796	2,569,052	6,446,365	20,100,743
Hardware and tools.....	85	21,712,390	5,465	6,462,577	6,364,396	18,977,571
Acids, alkalies and salts.....	8	31,481,134	1,856	2,888,650	3,441,885	17,908,582
Fruit and vegetable canning, etc.....	163	20,885,349	5,553	2,544,289	10,142,847	17,476,279
Boots and shoes, leather.....	65	11,223,085	5,304	5,318,864	9,035,900	17,468,700
Clothing, men's factory.....	54	11,342,979	4,180	5,466,724	8,420,705	17,432,412
Bridge building.....	6	17,754,370	2,772	4,828,814	7,717,128	16,721,877
Lithographing and engraving.....	68	15,950,075	4,013	6,450,906	4,570,872	15,581,426
Soaps and washing compounds.....	29	13,046,540	1,303	1,755,540	8,504,967	14,678,728
Woollen cloth.....	29	16,382,584	3,363	3,325,741	7,944,057	14,005,835
Cotton yarn and cloth.....	14	27,927,645	4,591	3,900,806	7,601,036	14,003,804
Totals, Forty Leading Industries	7,115	1,950,341,122	256,452	322,551,285	860,854,693	1,650,492,035
Grand Totals, All Industries...	9,910	2,418,340,450	339,859	421,789,723	1,080,106,598	2,103,030,788
Percentages of forty industries to grand totals.....	71.8	80.7	75.5	76.4	79.7	78.4

Subsection 4.—The Manufactures of the Prairie Provinces, 1929.

The flour-milling industry is outstanding among the manufactures of the Prairie Provinces. During 1929, as will be seen from Table 13, the gross value of the products of flour mills was greater in each province except Manitoba than that of any other industry, and amounted to \$17,126,466 in Manitoba, \$18,919,062 in Saskatchewan and \$19,796,461 in Alberta, a combined total of about 16 p.c. of the gross value of all manufactures in these provinces. The second industry in point of gross production was slaughtering and meat-packing, with products valued at \$22,370,467 in Manitoba, \$7,070,567 in Saskatchewan and \$19,455,869 in Alberta. Butter and cheese making showed a gross value of production of \$9,953,940 in Manitoba, \$8,471,388 in Saskatchewan and \$7,315,386 in Alberta.

The importance of these industries, based on such natural resources of the Prairie Provinces as grain-growing and cattle-raising areas, is evident. Attention may also be drawn to the generation of electric light and power in all three provinces and the refining of petroleum in Alberta.

13.—Statistics of Ten Leading Industries of Manitoba, Saskatchewan and Alberta, 1929.

NOTE.—Other leading industries, statistics of which cannot be given because there are fewer than three establishments in each industry, are: in Saskatchewan, petroleum refining and sheet metal products; in Alberta, railway rolling stock and cement. The statistics for these industries are included in the grand totals for the provinces.

MANITOBA.

Industry.	Estab-lish-ments.	Capital.	Em-ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Slaughtering and meat-packing....	6	5,586,810	1,375	1,781,739	18,418,167	22,370,467
Flour mills.....	39	5,584,017	567	663,001	13,270,231	17,126,466
Railway rolling stock.....	3	8,957,876	3,797	5,706,402	5,303,303	11,702,007
Butter and cheese.....	70	4,140,627	993	1,387,117	6,850,062	9,953,940
Central electric stations.....	41	49,963,898	1,333	1,928,708	1,103,117	7,545,627
Printing and publishing.....	68	4,048,360	1,138	1,984,690	1,036,400	5,727,416
Breweries.....	8	5,953,649	567	905,129	1,384,968	5,643,871
Bags, cotton and jute.....	6	2,139,365	253	311,112	3,915,665	4,626,968
Printing and bookbinding.....	62	4,579,674	1,273	1,829,378	1,459,600	4,423,065
Coffee and spices.....	8	2,218,597	183	233,526	3,356,922	4,272,384
Totals, Ten Leading Industries.	311	93,172,873	11,479	16,730,802	56,158,435	93,392,211
Grand Totals, All Industries...	923	173,152,948	26,318	34,158,583	89,158,381	161,909,127

SASKATCHEWAN.

Flour mills.....	48	7,039,233	629	885,862	15,106,779	18,919,062
Butter and cheese.....	85	4,742,052	692	881,635	6,013,256	8,471,388
Slaughtering and meat-packing....	3	2,975,498	562	711,135	5,889,622	7,070,567
Central electric stations.....	150	13,846,353	619	913,808	65,622	4,235,212
Printing and publishing.....	137	3,180,817	949	1,680,982	767,044	4,098,578
Breweries.....	8	3,589,315	231	317,436	1,307,241	3,344,124
Bread and other bakery products.....	115	2,464,440	637	756,251	1,472,449	3,091,608
Planing-mill products.....	15	2,198,238	493	665,180	1,187,815	2,390,938
Dyeing, cleaning and laundry work	17	1,104,974	403	419,354	139,639	897,342
Sawmills.....	39	877,601	757	250,917	396,001	808,488
Totals, Ten Leading Industries.	617	42,018,521	5,972	7,482,560	32,345,468	53,237,307
Grand Totals, All Industries...	761	58,877,124	8,047	10,438,759	51,208,827	80,501,159

ALBERTA.

Flour mills.....	35	9,948,201	754	1,027,269	15,724,470	19,796,461
Slaughtering and meat-packing....	6	9,907,551	1,471	1,841,369	15,715,987	19,455,869
Petroleum products.....	4	7,745,833	448	716,667	9,055,313	12,738,164
Butter and cheese.....	100	3,381,051	528	652,993	5,617,876	7,315,386
Breweries.....	5	8,034,590	268	522,180	1,561,490	5,799,113
Central electric stations.....	67	24,840,437	742	1,160,322	732,216	5,118,696
Bread and other bakery products.....	137	3,539,774	729	852,158	1,844,470	3,948,109
Printing and publishing.....	77	3,970,656	751	1,366,183	675,349	3,833,574
Sawmills.....	100	2,806,585	1,628	778,345	1,376,324	2,852,440
Planing-mill products.....	19	2,013,633	424	587,965	936,843	1,821,508
Totals, Ten Leading Industries	530	76,188,311	7,743	9,505,451	53,210,438	82,679,320
Grand Totals, All Industries...	817	107,618,028	13,748	16,460,038	63,132,921	107,556,792

Subsection 5.—The Manufactures of British Columbia, 1929.¹

British Columbia was in 1929 the third most important manufacturing province in the Dominion, producing goods to a gross value of \$276,950,914. About 23 p.c. of this production, or \$64,637,301, is seen in Table 14 to be that of the saw-

¹Including Yukon Territory.

milling industry; the predominance of forest products industries in the industrial life of the province is emphasized if to this figure be added \$16,896,652, the gross value of products of the pulp and paper industry and \$3,797,721, that of the planing mills and sash and door factories. Second in importance among the industries of the province is that of fish-curing and packing, with a gross value of products of \$21,741,910, followed by the pulp and paper industry, electric light and power generation, and slaughtering and meat-packing.

14.—Statistics of Twenty-five Leading Industries of British Columbia, 1929.¹

NOTE.—Other leading industries, statistics of which cannot be given because there are fewer than three establishments in each industry, are non-ferrous metal smelting, sugar refining, cement and explosives. The statistics for these industries are included in the grand total of all industries in the province.

Industry.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Sawmills.....	371	56,724,482	15,430	18,605,076	34,628,185	64,637,301
Fish-curing and packing.....	139	22,461,580	7,760	3,488,589	12,820,915	21,741,910
Pulp and paper.....	6	47,590,726	3,077	5,068,733	4,383,848	16,896,652
Central electric stations.....	75	80,461,940	1,621	2,643,621	3,269,329	13,574,731
Slaughtering and meat-packing....	6	5,375,432	662	917,300	9,644,221	11,744,300
Petroleum products.....	3	6,430,542	366	674,690	8,227,133	8,729,402
Printing and publishing.....	60	4,293,250	1,402	2,502,466	1,388,474	6,499,982
Bread and other baking products..	217	3,506,965	1,285	1,412,964	2,894,875	5,638,338
Fruit and vegetable packery.....	27	3,975,704	1,208	809,957	3,064,693	5,562,664
Butter and cheese.....	35	1,713,058	516	752,104	3,450,815	5,049,793
Sheet metal products.....	19	7,612,247	562	839,986	2,907,837	5,017,420
Coffee and spices.....	8	945,870	105	136,367	3,115,504	4,175,431
Breweries.....	10	6,215,943	268	511,045	1,341,167	4,111,567
Planing-mill products.....	47	3,610,259	1,053	1,421,189	1,797,591	3,797,721
Dyeing, cleaning and laundry work	55	2,598,537	1,606	1,571,518	249,539	2,957,538
Coke and gas products.....	6	15,026,718	525	735,750	1,121,289	2,846,217
Castings and forgings.....	31	3,615,898	888	1,305,172	971,908	2,815,872
Shipbuilding.....	14	6,427,345	837	1,276,410	796,219	2,538,575
Biscuits, confectionery, cocoa and chocolate.....	46	1,458,086	491	516,521	1,131,660	2,500,798
Boxes and packing cases.....	17	1,282,265	587	627,589	1,386,698	2,467,057
Printing and bookbinding.....	73	1,890,072	629	846,810	692,382	2,148,566
Distilleries.....	4	7,196,863	229	284,376	1,360,898	1,948,768
Flour and feed mills.....	4	1,853,635	99	109,965	1,565,129	1,922,192
Paints and varnishes.....	9	1,550,529	167	213,227	766,301	1,462,649
Furniture and upholstering.....	38	1,622,018	502	551,152	571,892	1,421,199
Totals, Twenty-five Leading Industries.....	1,326	295,439,964	41,874	47,822,577	103,548,502	202,206,637
Grand Totals, All Industries...	1,699	394,866,933	51,379	61,980,107	144,661,706	276,950,914
Percentages of twenty-five leading industries to grand totals.....	77.6	74.8	81.5	77.2	71.6	73.0

¹ Including Yukon Territory.

Section 4.—Principal Factors in Manufacturing Production.

Subsection 1.—Capital Employed.

In a retrospective study of capital employed in Canadian manufactures since 1900, the remarkable increase denotes rapid growth in industrial operations. From 1900 to 1905 the capital increased from \$446,900,000 to \$833,900,000, and advanced to \$1,958,700,000 in 1915. During this period returns were received from establishments with 5 hands and over, and while the rise of wholesale prices did not exceed 37 p.c., the capital employed in manufactures increased nearly 340 p.c.

The capital investment in 1929 in all establishments irrespective of the number of employees was \$5,083,014,754, as compared with \$4,780,296,049 in 1928, and with \$3,244,302,410 in 1922, an increase of 57 p.c. in 7 years.

The provincial distribution of the manufactures of Canada may be illustrated by the investments of capital. Capital employed in Ontario during 1920 was 49.5 p.c. of the total, 52.5 p.c. in 1923, 50.4 p.c. in 1925, 49.2 p.c. in 1927 and 47.6 p.c. in 1929. The percentages employed in the plants of Quebec were: 30.5 in 1920, 30.8 in 1921, 29.5 in 1924, 30.6 in 1926, 33.1 in 1928 and 32.9 in 1929. British Columbia held the third place in 1929 with a capital of 7.8 p.c. of the total, while Manitoba, Nova Scotia, New Brunswick and Alberta followed in the order named, with proportions of between 3.4 p.c. and 2.1 p.c. each. (Table 15.)

From a survey of the industrial groups in which the capital of the country is invested, it appears that the wood and paper group led in 1929, with an investment of 22.7 p.c. of the total. The central electric station industry was second with 20.8 p.c., the iron and steel group third with 14.8 p.c., and the vegetable products group fourth with 11.2 p.c. (Table 16.)

The statistics of capital employed in the manufacturing industries are of interest in deducing the proportions of fixed and liquid assets. In 1921 lands, buildings and machinery constituted 60 p.c. of the total capital, while in 1923 the proportion had increased to 64 p.c., in 1924 to 65 p.c. and to 66 p.c. in 1926 to 1929. The fixed assets amounted to \$3,377,590,099 in 1929, while quick assets, including the materials on hand, stocks in process, cash and sundries, were valued at \$1,705,424,655. Details by industrial groups and by provinces are given in Table 17.

15.—Provincial Distribution of Capital Employed in the Manufacturing Industries of Canada, in Percentages, 1921-29.

Province.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Prince Edward Island.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Nova Scotia.....	3.3	3.3	3.3	3.2	3.1	3.0	2.9	2.9	2.7
New Brunswick.....	3.1	2.5	2.5	2.5	2.4	2.4	2.3	2.4	2.3
Quebec.....	30.8	29.9	29.9	29.5	29.9	30.6	31.7	33.1	32.9
Ontario.....	50.6	52.3	52.5	51.8	50.4	49.8	49.2	47.6	47.6
Manitoba.....	2.9	2.7	2.7	3.1	3.2	3.2	3.5	3.3	3.4
Saskatchewan.....	1.0	1.0	0.9	0.9	0.8	0.8	0.9	0.9	1.1
Alberta.....	1.7	1.7	1.8	1.9	1.8	1.8	1.9	2.0	2.1
British Columbia and Yukon.....	6.5	6.5	6.5	7.1	8.3	8.3	7.5	7.7	7.8
Totals.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

16.—Distribution of Capital Employed in the Manufacturing Industries of Canada, by Industrial Groups and Percentages, 1927-29.

Industrial Group.	1927.		1928.		1929.	
	Amount.	Percent- age.	Amount.	Percent- age.	Amount.	Percent- age.
	\$		\$		\$	
Vegetable products.....	494,176,054	11.4	531,918,725	11.1	569,064,835	11.2
Animal products.....	233,113,872	5.4	243,550,121	5.1	243,825,065	4.8
Textile products.....	346,512,165	8.0	365,721,591	7.7	383,153,797	7.5
Wood and paper.....	1,023,301,749	23.6	1,158,651,534	24.2	1,152,075,234	22.7
Iron and its products.....	638,914,893	14.7	702,931,186	14.7	754,989,105	14.8
Non-ferrous metals.....	208,957,166	4.8	253,367,370	5.3	298,721,106	5.9
Non-metallic minerals.....	280,033,057	6.4	298,693,122	6.3	329,448,844	6.5
Chemicals and allied products.....	134,618,839	3.1	148,939,920	3.1	165,886,912	3.3
Miscellaneous industries.....	111,178,478	2.6	119,602,877	2.5	130,118,324	2.5
Central electric stations.....	866,825,285	20.0	956,919,603	20.0	1,055,731,532	20.8
Totals.....	4,337,631,558	100.0	4,780,296,049	100.0	5,083,014,754	100.0

17.—Forms of Capital Employed in the Manufacturing Industries of Canada, by Provinces and by Groups of Industries, 1929.

Province and Group.	Estab-lish-ments.	Land, Buildings, Fixtures, Machinery and Tools.	Materials on Hand, Stocks in Process, Finished Products, etc.	Cash, Trading and Operating Accounts and Bills Receivable.	Total Capital.
	No.	\$	\$	\$	\$
Totals.....	23,597	3,377,590,099	878,783,691	826,640,964	5,083,014,754
PROVINCE.					
Prince Edward Island.....	276	2,411,564	536,781	541,589	3,489,934
Nova Scotia.....	1,195	96,637,139	22,027,058	16,998,128	135,662,325
New Brunswick.....	860	75,098,124	21,493,818	21,374,028	117,965,970
Quebec.....	7,156	1,187,338,320	257,081,626	228,591,096	1,673,011,042
Ontario.....	9,910	1,509,541,499	457,935,862	450,863,089	2,418,340,450
Manitoba.....	923	123,274,605	25,918,365	23,959,978	173,152,948
Saskatchewan.....	761	88,024,102	13,536,924	7,316,098	58,877,124
Alberta.....	817	74,100,731	19,437,491	14,109,806	107,648,028
British Columbia and Yukon.....	1,699	271,164,015	60,815,766	62,887,152	394,866,933
INDUSTRIAL GROUP.					
Vegetable products.....	5,005	302,983,088	160,566,214	105,515,533	569,064,835
Animal products.....	4,490	119,319,903	67,097,386	57,407,776	243,825,065
Textiles and textile products.....	1,891	193,841,995	99,212,392	90,099,410	383,153,797
Wood and paper products.....	7,405	793,006,939	188,938,055	170,130,240	1,152,075,234
Iron and its products.....	1,169	410,443,034	167,768,708	176,777,363	754,989,105
Non-ferrous metal products.....	408	164,109,880	61,010,346	73,600,880	298,721,106
Non-metallic mineral products.....	1,188	232,680,217	60,110,250	36,658,377	329,448,844
Chemicals and allied products.....	554	93,291,653	33,289,770	39,305,489	165,886,912
Miscellaneous industries.....	463	66,350,928	30,180,651	33,586,745	130,118,324
Central electric stations.....	1,024	1,001,562,462	10,609,919	43,559,151	1,055,731,532

Subsection 2.—Employment in Manufactures.

The total number of persons engaged in those manufacturing industries of Canada for which statistics were obtained in 1929 was in that year 694,434, as compared with 658,023 in the same industries in 1928 and 474,430 in 1922. The 1929 employees included 96,607 salaried employees, this figure being obtained from the manufacturers at the end of the year, and 597,827 wage-earners, the average number employed, as derived from the manufacturers' records of the numbers on the pay-rolls on the 15th of each of the twelve months. Prior to 1925 the number of wage-earners was computed as the sum of the number recorded each month divided by 12 whether the establishment was operating the 12 months or not. Beginning with the statistics for 1925, in seasonal industries which are in operation only a limited number of months in each year, such as sawmilling, fruit and vegetable canning, etc., the average was computed by dividing the sum of the wage-earners reported on the 15th of each month by the number of months in operation. This change of method increased the apparent number of employees, especially in seasonal industries but also in the groups containing such seasonal industries and in provincial and Dominion totals. Consequently, the change of method exerted a reducing influence on apparent average wages and on all other averages per wage-earner and per employee.

The number of salaried employees and of wage-earners, as thus ascertained, is given for each of the years since 1917, the year of the first annual census of manufacturing production, in Table 18. Then, taking the percentages of the wage-earners and the total employees in each year to those in 1917, and dividing these percentages into the volume of manufacturing production in each year (see page

320 to 323 for the index of volume), the quotients give tentative conclusions regarding the efficiency of production per wage-earner and per employee in years subsequent to 1917, as compared with that year. Since central electric stations were excluded in computing the index of the volume of production, employees in these establishments have been excluded also in computing the percentages relative to 1917 for both wage-earners and total employees, and consequently from the indexes of efficiency of production. These indexes of the efficiency of production are, of course, affected by the change explained above in the method of computing the number of employees in 1925 and subsequent years as compared with 1924 and previous years. Inasmuch as the change increased the apparent number of employees in 1925 and later years, it proportionately decreased the index of the efficiency of production. The table illustrates the development of modern industry which has accomplished a large increase in production with a comparatively small increase in wage-earners by better organization and the use of improved equipment. Capital invested in manufacturing industries, exclusive of central electric stations, has increased by 72.1 p.c. from 1917 to 1929, compared with an increase of only 7.5 p.c. in wage-earners, while the horse power used per wage-earner has increased from 3.04 in 1917 to 6.58 in 1929. The element of better organization is not susceptible of measurement. However, salaried employees have increased by 40.5 p.c. since 1917, or more nearly in proportion to the growth in production than wage-earners. The result of these developments has been the increase of 46.6 p.c. in the volume of production per wage-earner and the somewhat smaller increase of 42.4 p.c. per employee, owing to the increased proportion of salaried employees in the total. The indexes may be considered as supplying satisfactory evidence of a general gain in volume of production per person employed. In this connection it should be remembered, however, that in 1917, owing to the large numbers overseas, many persons of low efficiency were being employed, their inefficiency being concealed at the time by the prevailing inflation of prices; it is possible that the sudden rise in the indexes of efficiency from 1920 to 1921 may be partly accounted for by their elimination in the contraction of industrial operations which occurred at that time.

18.—Salaried Employees and Wage-Earners in the Manufacturing Industries of Canada, with Volume of Manufacturing Production and Comparative Efficiency of Production, 1917-29.

Year.	Salaried Employees.	Wage-Earners.	Total Employees.	Percentage relative to 1917. ¹		Index Number ¹ of Volume of Mfd. Products.	Efficiency of Production. ¹	
				Of Wage-Earners.	Of Total Employees.		Per Wage-Earner.	Per Employee.
	No.	No.	No.	p.c.	p.c.			
1917.....	68,726	552,968	621,694	100.0	100.0	100.0	100.0	100.0
1918.....	70,706	547,599	618,305	99.0	98.8	102.0	103.0	103.2
1919.....	81,681	529,327	611,008	95.7	98.1	98.1	102.5	100.0
1920.....	83,015	526,571	609,586	95.1	97.7	95.0	99.9	97.2
1921.....	74,873	381,203	456,076	68.5	72.6	86.1	125.6	118.6
1922.....	76,040	398,390	474,430	71.6	75.6	96.0	134.1	127.0
1923.....	78,273	446,994	525,267	80.5	83.9	104.8	130.2	124.9
1924.....	76,230	432,273	508,503	77.6	80.8	102.9	132.7	127.3
1925.....	77,623	466,602	544,225	83.8	86.6	112.7	134.5	130.1
1926.....	81,794	499,745	581,539	89.9	92.7	128.1	142.5	138.2
1927.....	85,483	533,450	618,933	95.8	98.6	136.5	142.5	138.5
1928.....	91,243	566,780	658,023	101.7	104.7	148.8	146.3	142.0
1929.....	96,607	597,827	694,434	107.5	110.6	157.5	146.6	142.4

¹Central electric stations excluded.

19.—Percentages of Male and Female Employees on Salaries and Wages and Percentages of Total Salaries and Wages, by Provinces and Groups of Industries, 1929
—concluded.

Industrial Group.	Employees on Salaries.			Salaries.	Employees on Wages.			Wages.
	Males.	Females.	Total.		Males.	Females.	Total.	
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Vegetable products.....	12.8	12.6	12.8	13.1	11.0	19.3	12.8	11.0
Animal products.....	11.8	8.6	11.0	9.0	8.8	12.2	9.5	7.2
Textile products.....	9.0	14.9	10.4	10.3	9.0	48.8	17.7	13.8
Wood and paper products.....	22.0	21.7	22.0	23.0	28.2	9.0	24.0	23.9
Iron and its products.....	16.7	15.5	16.5	17.7	24.1	2.6	19.5	24.6
Non-ferrous metal products..	7.6	8.9	7.9	7.6	5.9	3.7	5.4	6.5
Non-metallic mineral products.....	4.4	3.3	4.1	4.1	5.7	0.7	4.6	5.4
Chemicals and allied products.....	4.5	5.6	4.7	5.0	2.0	2.1	2.0	2.1
Miscellaneous industries.....	3.7	3.2	3.6	4.1	3.3	1.6	2.9	3.4
Central electric stations.....	7.5	5.7	7.0	6.1	2.0	—	1.6	2.1

Monthly Record of Employment in Manufactures, 1929.—A monthly record of the number of wage-earners employed in Canadian manufactures, as compiled by the Census of Industry, is given by sex in Table 20, which shows that the peak of employment was in June. Ordinarily manufacturing employment in Canada reaches its highest point about September. Some of the seasonal industries such as canning are most active then, textile industries are preparing winter goods and industry generally feels the active demand of the agricultural purchasing power resulting from the season's harvests. In 1929, however, the rising tide of "good times" was checked about midsummer and the recession set in during the autumn with the stock market crash. The harvests of 1929 in the Canadian West were disappointing also. Under these circumstances the expansion in manufacturing employment stopped in June and there were declines from month to month thereafter.

While employment for male operatives expanded from the beginning of the year to its maximum in June, the number of female workers was greatest in September, chiefly on account of seasonal activity in the vegetable and fruit preserving group, which employs a considerable proportion of women. Textiles, the one group in which the majority of workers are women, also reported an active period during the autumn. Indicative of the expansion of industrial operations during the first half of 1929 is the fact that in every month the number of wage-earners employed exceeded by a large number the total for the corresponding month of the previous year. After June, however, the excess in each month of 1929 over the corresponding month of 1928 grew less, December, 1929, actually falling below December, 1928.

20.—Total Number of Wage-Earners Employed in the Manufacturing Industries of Canada, by Months, 1928 and 1929.

Month.	1928.			1929.		
	Males.	Females.	Total.	Males.	Females.	Total.
January.....	365,790	107,362	473,152	409,663	111,564	521,227
February.....	379,547	110,764	490,311	422,912	114,904	537,816
March.....	393,416	112,814	506,230	439,106	116,802	555,908
April.....	408,559	114,007	522,566	456,326	118,943	575,269
May.....	432,338	116,874	549,212	473,017	121,952	594,969
June.....	442,945	117,921	560,866	474,157	122,387	596,544
July.....	445,664	116,707	562,371	473,261	121,618	594,879
August.....	447,717	120,082	567,799	464,087	124,422	588,509
September.....	443,060	125,592	568,652	455,918	130,521	586,439
October.....	437,597	125,090	562,687	446,752	127,814	574,566
November.....	422,045	122,168	544,213	425,729	121,968	547,697
December.....	407,257	117,191	524,448	404,700	114,631	519,331

Days in Operation.—During 1929 each plant, on the average, operated 227 days on full time and 17 days part time, making a total of 244 days. The average number of days in operation was lowest for the Maritime Provinces where seasonal industries such as fish-canning and packing and sawmilling form an important part of the total. These same industries reduced the averages for the animal and wood and paper products groups.

21.—Total and Average Number of Days in Operation by Establishments in the Manufactures of Canada, by Provinces and Groups, 1929.

Province and Group.	Number of Establishments.	Time in Operation—Number of Days.			Average Days in Operation per Establishment.		
		Full Time.	Part Time.	Idle.	Full Time.	Part Time.	Total.
PROVINCE.							
Prince Edward Island.....	276	35,323	7,086	38,287	128	26	154
Nova Scotia.....	1,195	216,478	18,394	133,685	181	15	196
New Brunswick.....	860	142,362	12,353	106,494	166	14	180
Quebec.....	7,156	1,564,672	88,385	411,821	219	12	231
Ontario.....	9,910	2,380,226	178,049	393,121	240	18	258
Manitoba.....	923	233,782	16,706	31,482	253	18	271
Saskatchewan.....	761	184,066	32,134	21,856	242	42	284
Alberta.....	817	207,199	13,492	32,840	254	17	271
British Columbia and Yukon.....	1,699	401,115	26,441	96,128	236	16	252
Totals.....	23,597	5,365,223	393,040	1,265,714	227	17	244
INDUSTRIAL GROUP.							
Vegetable products.....	5,005	1,233,450	101,637	209,545	246	20	266
Animal products.....	4,490	944,748	37,284	159,104	210	8	218
Textile products.....	1,891	477,441	43,889	44,110	253	23	276
Wood and paper products...	7,405	1,390,884	105,244	754,991	188	14	202
Iron and its products.....	1,169	331,962	10,682	11,626	284	9	293
Non-ferrous metal products.	408	114,366	3,619	5,752	280	9	289
Non-metallic mineral products.....	1,188	280,403	19,553	60,679	236	16	252
Chemicals and allied products.....	554	149,041	9,943	10,120	269	18	287
Miscellaneous industries....	463	125,275	7,326	7,543	271	16	287
Central electric stations....	1,024	317,653	53,863	2,244	310	53	363

Subsection 3.—Wages and Salaries in Canadian Manufacturing Industries, 1929.

The total amount disbursed by manufacturers in salaries and wages during 1929 was \$813,049,842 paid to 694,434 workers, as compared with \$755,199,372 paid to 658,023 persons in 1928, \$510,431,312 paid to 474,430 persons in 1922 and \$732,120,585 paid to 609,586 persons in 1920 at the peak of the post-war inflation. Of the 1929 aggregate, \$188,747,672 or 23.2 p.c. was paid to 96,607 salaried employees who constituted 13.9 p.c. of the total number, and \$624,302,170 or 76.8 p.c. was paid in wages to 597,827 wage-earners, who formed 86.1 p.c. of the aggregate number of employees.

The average salary paid in the manufacturing industries during 1929 was \$1,954, compared with \$1,915 in 1928, \$1,899 in 1927, \$1,867 in 1926, \$1,843 in 1925, \$1,831 in 1924, \$1,824 in 1923 and \$1,787 in 1922. The average wage paid was \$1,045 in 1929, \$1,024 in 1928, \$997 in 1927, \$1,003 in 1926, \$971 in 1925, \$972 in 1924, \$959 in 1923 and \$937 in 1922.

The average wage in 1929 was \$21 or 2 p.c. higher than in 1928 and \$108 or 11.6 p.c. higher than in 1922. The average salary in 1929 was \$39 or 2 p.c. higher than in 1928 and \$167 or 9.3 p.c. higher than in 1922.

The proportion of female wage-earners per 1,000 was 217 and of male operatives 783 during 1929, while in each 1,000 salary earners 236 were women and 764 were men. The proportion of females among wage-earners was slightly less, while that among salaried employees was greater than in the preceding year.

Average Earnings, by Provinces, of Persons Employed in Manufactures.—Table 22 shows the number of salary and wage-earners and the average salary and wage paid in 1929 by manufacturers in the various provinces, also average earnings in 1928.

There were successive rises in average salaries from Prince Edward Island to Quebec, which showed the highest average of all the provinces, while Ontario was slightly lower than Quebec. The head offices of many large corporations being located in Montreal and Toronto tends to raise the average of salaries in the two provinces. In British Columbia and the Prairie Provinces, the averages were smaller again, especially in Saskatchewan and Alberta, there being comparatively few large executive offices in these two provinces, where salaries were, on the whole, below those in New Brunswick.

There were general increases in average wages from the eastern provinces through to Manitoba, where the mean for the year, \$1,179, was the highest in the Dominion, being \$134 greater than the general average. In the western provinces there was an unusually small proportion of women workers, while many of the male employees were engaged in the better-paid wood and paper, electric light and power industries. In the four provinces situated to the east, average wages in manufacturing were lower than the mean for the Dominion, while from Ontario westward the opposite was the case.

The seasonal nature of some of the leading manufactures, notably fish-preserving and lumbering, tended to reduce the mean wage in the Maritime Provinces and Quebec, while Quebec also has a larger proportion of female wage-earners than any province, other than Prince Edward Island, employed chiefly in the textile, food and tobacco industries. The fact that average wages in Alberta and British Columbia were lower than in Manitoba and Saskatchewan was partly a result of the seasonal nature of some of the industries in the former provinces, especially fish and fruit preserving and sawmilling in British Columbia.

22.—Employees on Salaries and Wages in Manufacturing Industries, 1929, and Average Salaries and Wages, by Provinces, 1928 and 1929.

Province.	Employees on Salaries.			Average Salaries.		Employees on Wages.			Average Wages.		
	Male.		Total.	1929.	1928.	Male.		Female.	Total.	1929.	1928.
	No.	No.	No.	\$	\$	No.	No.	No.	\$	\$	
Prince Edward Island....	170	36	206	967	1,011	1,175	752	1,927	302	285	
Nova Scotia.....	1,381	401	1,782	1,725	1,603	15,580	3,604	19,184	774	745	
New Brunswick.....	1,355	384	1,739	1,816	1,855	13,123	3,655	16,778	748	710	
Quebec.....	21,282	5,575	26,857	1,988	1,960	137,369	49,241	186,610	966	937	
Ontario.....	37,777	13,595	51,372	1,975	1,920	228,378	60,109	288,487	1,110	1,094	
Manitoba.....	3,415	953	4,368	1,900	1,887	18,076	3,874	21,950	1,179	1,182	
Saskatchewan.....	1,808	337	2,145	1,699	1,721	5,412	490	5,902	1,151	1,160	
Alberta.....	1,878	476	2,354	1,778	1,755	9,713	1,681	11,394	1,077	1,078	
British Columbia and Yukon.....	4,726	1,058	5,784	1,921	1,955	39,217	6,378	45,595	1,111	1,106	
Totals.....	73,792	22,815	96,607	1,954	1,915	468,043	129,784	597,827	1,045	1,024	

Average Earnings in 40 Leading Industries.—Table 23 is a record of employees by sex and of average salaries and wages paid in the 40 leading industries of Canada during 1929, together with the average number of days the establishments in each industry operated. Averages for 1928 are also given.

Average Salaries.—In 6 industries the average salaries exceeded \$2,500; in 13 they were from \$2,000 to \$2,500; in 18 they ranged between \$1,500 and \$2,000, while in only 3 were they below \$1,500 during 1929. None of the six industries paying the highest salaries—sugar refineries, distilleries, breweries, non-ferrous metal smelting, bridge building and pulp and paper—reported a proportion of female workers equal to the general percentage in the 40 industries, while the numbers employed were rather small except in the pulp and paper industry. The lowest salaries, ranging between \$1,000 and \$1,500, were reported in the butter and cheese, fish-curing and packing, and baking industries. Various factors contributed to reduce the mean yearly remuneration of these groups. Fish-preserving plants operate during a very short active season; butter and cheese factories, which also work less than the average number of days, are mainly situated in small towns and country places; while in the bread and other bakery products plants the percentage of women on salaries was above the average.

Average Wages.—The highest wages, or those above \$1,500, were paid in 4 metal-working industries—non-ferrous metal smelting, bridge building, blast furnaces and steel mills, automobiles—and in the petroleum products industry, in all of which the proportion of female workers was very low and the proportion of skilled workers probably high. In 11 industries the average wage was between \$1,200 and \$1,500. These also were largely metal-working or chemical industries, together with printing, pulp and paper and central electric stations, and in all of them the proportion of women employed was low. In 11 industries the average wage was below \$1,000. Some of these were industries in which operations were very seasonal such as sawmilling and fish-packing, while the flour and grist-mill industry includes a large number of small grist mills in which work is intermittent. The other industries with this low average of wages were textile, food, and boot and shoe industries in which the proportion of female wage-earners was high, the number in several industries being greater than that of men.

23.—Employees by Sex in Forty Leading Canadian Manufacturing Industries during 1929, with Averages of Salaries and Wages Paid, and of Number of Days Operated by Plants in each Industry for 1928 and 1929.

SALARIES.

Industry.	Employees on Salaries.			Average Salaries.	
	Male.	Female.	Total.	1929.	1928.
	No.	No.	No.	\$	\$
Pulp and paper.....	3,104	634	3,738	2,512	2,485
Slaughtering and meat-packing.....	2,154	345	2,499	1,892	1,828
Flour and grist-mill products.....	993	217	1,210	1,901	1,924
Automobiles.....	1,687	603	2,290	2,282	2,158
Central electric stations.....	5,505	1,309	6,814	1,690	1,683
Sawmills.....	1,643	243	1,886	2,063	2,116
Butter and cheese.....	3,526	656	4,182	1,111	1,098
Railway rolling stock.....	1,521	109	1,630	2,230	2,178
Electrical apparatus and supplies.....	3,503	1,452	4,955	1,793	1,796
Non-ferrous metal smelting.....	621	63	684	2,563	2,388
Petroleum products.....	445	65	510	2,457	2,466
Rubber goods, including footwear.....	1,751	508	2,259	1,841	1,684
Castings and forgings.....	2,000	647	2,647	2,180	2,072
Cotton yarn and cloth.....	575	120	695	2,320	2,429
Bread and other bakery products.....	846	428	1,274	1,400	1,548

23.—Employees by Sex in Forty Leading Canadian Manufacturing Industries during 1929, with Averages of Salaries and Wages Paid, and of Number of Days Operated by Plants in each Industry for 1928 and 1929—continued.

SALARIES—concluded.

Industry.	Employees on Salaries.			Average Salaries.	
	Male.	Female.	Total.	1929.	1928.
	No.	No.	No.	\$	\$
Printing and publishing.....	4,965	1,805	6,770	1,695	1,690
Steel and rolled products, pig iron, ferro-alloys, etc.	597	115	712	2,452	2,513
Clothing, women's factory.....	1,163	792	1,955	1,945	1,981
Machinery.....	1,822	614	2,436	1,930	1,951
Cigars and cigarettes.....	1,009	294	1,303	1,823	1,889
Biscuits and confectionery.....	1,723	624	2,347	1,963	1,829
Breweries.....	768	116	884	2,695	2,408
Hosiery, knitted goods and fabric gloves.....	771	491	1,262	2,135	2,130
Planing mills, sash and door factories.....	1,299	247	1,546	1,846	1,846
Sheet metal products.....	997	340	1,337	1,893	1,886
Clothing, men's factory.....	1,009	411	1,420	1,828	1,905
Boots and shoes, leather.....	966	357	1,323	1,978	1,980
Sugar refineries.....	246	61	307	3,053	3,087
Furniture and upholstering.....	871	322	1,193	2,108	2,172
Distilleries.....	289	72	361	2,970	2,466
Printing and bookbinding.....	1,557	575	2,130	2,070	2,038
Agricultural implements.....	1,334	431	1,765	1,883	1,769
Coke and gas products.....	652	237	889	1,652	1,477
Brass and copper products.....	891	214	1,105	1,735	1,785
Fish-curing and -packing.....	583	77	660	1,443	1,355
Bridge building.....	921	107	1,028	2,530	2,472
Automobile supplies.....	401	129	530	2,222	2,178
Furnishing goods, men's.....	600	292	892	1,770	1,677
Acids, alkalies and salts.....	354	26	380	2,160	1,927
Coffee and spices.....	445	136	581	2,082	2,180
Totals, Forty Leading Industries.....	56,107	16,282	72,389	1,921	1,893
Grand Totals, All Industries.....	73,792	22,815	96,607	1,954	1,915

WAGES.

Industry.	Employees on Wages.			Average Wages.		Average Days in Full and Part Time Operation.	
	Male.	Female.	Total.	1929.	1928.	1929.	1928.
	No.	No.	No.	\$	\$	No.	No.
Pulp and paper.....	29,595	869	30,464	1,341	1,282	279	271
Slaughtering and meat-packing.....	7,434	829	8,263	1,122	1,092	290	289
Flour and grist-mill products.....	5,267	141	5,408	976	1,003	226	226
Automobiles.....	13,922	223	14,145	1,529	1,698	263	308
Central electric stations.....	9,350	-	9,350	1,425	1,414	357	364
Sawmills.....	44,601	79	44,680	723	715	95	91
Butter and cheese.....	7,449	241	7,690	1,050	993	223	226
Railway rolling stock.....	23,823	35	23,858	1,455	1,396	285	291
Electrical apparatus and supplies.....	12,352	3,564	15,916	1,120	1,084	287	291
Non-ferrous metal smelting.....	7,408	27	7,435	1,617	1,550	355	359
Petroleum products.....	4,444	24	4,468	1,544	1,496	328	314
Rubber goods, including footwear.....	11,415	4,122	15,537	1,028	1,029	271	281
Castings and forgings.....	20,467	329	20,796	1,206	1,192	294	294
Cotton yarn and cloth.....	11,369	8,157	19,526	771	763	258	282
Bread and other bakery products.....	13,632	2,117	15,749	1,060	1,065	299	299
Printing and publishing.....	8,626	1,564	10,190	1,465	1,397	301	299
Steel and rolled products, pig iron, ferro-alloys, etc.	10,479	27	10,506	1,597	1,650	288	302
Clothing, women's factory.....	4,011	11,058	15,069	884	899	280	283
Machinery.....	9,746	253	9,999	1,239	1,230	299	301
Cigars and cigarettes.....	1,659	3,420	5,079	661	692	262	265
Biscuits and confectionery.....	4,653	6,073	10,726	761	742	273	275
Breweries.....	3,909	461	3,950	1,201	1,182	286	285

23.—Employees by Sex in Forty Leading Canadian Manufacturing Industries during 1929, with Averages of Salaries and Wages Paid, and of Number of Days Operated by Plants in each Industry for 1928 and 1929—concluded.

WAGES—concluded.

Industry.	Employees on Wages.			Average Wage.		Average Days in Full and Part Time Operation.	
	Male.	Female.	Total.	1929.	1928.	1929.	1928.
	No.	No.	No.	\$	\$	No.	No.
Hosiery, knitted goods and fabric gloves.....	5,873	12,474	18,347	741	748	280	244
Planing mills, sash and door factories.....	11,473	113	11,586	1,045	1,007	272	246
Sheet metal products.....	7,085	864	7,949	1,094	1,109	295	273
Clothing, men's factory.....	4,811	5,275	10,086	1,078	994	241	244
Boots and shoes, leather.....	8,652	5,588	14,240	871	868	288	283
Sugar refineries.....	1,916	102	2,018	1,361	1,320	263	268
Furniture and upholstering.....	11,406	483	11,889	1,008	981	291	256
Distilleries.....	1,442	416	1,858	1,108	1,139	264	279
Printing and bookbinding.....	7,569	2,679	10,248	1,198	1,184	296	296
Agricultural implements.....	9,534	109	9,643	1,188	1,158	287	289
Coke and gas products.....	3,009	4	3,013	1,483	1,420	350	348
Brass and copper products.....	4,668	459	5,127	1,147	1,137	287	296
Fish-curing and -packing.....	9,493	6,214	15,707	284	298	103	112
Bridge building.....	3,949	—	3,949	1,605	1,525	290	264
Automobile supplies.....	3,878	300	4,178	1,324	1,250	290	317
Furnishing goods, men's.....	1,346	7,652	8,998	638	647	274	283
Acids, alkalies and salts.....	2,509	8	2,517	1,398	1,274	341	322
Coffee and spices.....	680	440	1,120	977	953	291	293
Totals, Forty Leading Industries...	364,804	86,378	451,182	1,073	1,052	236	233
Grand Totals, All Industries.....	468,043	129,784	597,827	1,045	1,024	244	245

Real Earnings of Employees in Recent Years.—The average yearly wage of the wage-earner was \$1,045 in 1929, as compared with \$760 in 1917, an increase of 37.5 p.c. in average earnings. When the index number representing the average yearly wages, with 1917 as a base, is divided by the index number of the cost of living, converted to the same base, it is seen that real wages advanced by 17.7 p.c. between 1917 and 1929. The details of the computation are given in Table 24. There was little change in real wages during the three years 1917 to 1920 when prices were rising rapidly. During the following two years, 1921 and 1922, when prices dropped rapidly, real wages increased over 5 p.c. Since then there has been an almost continuous rise from year to year.

24.—Average Yearly Earnings and Real Wages of Wage-Earners in Manufacturing Industries, 1917-29.

Year.	Amount of Wages Paid.	Average Number of Wage-Earners.	Average Yearly Earnings.	Index Numbers.		
				Average Yearly Earnings.	Cost of Living.	Real Value of Average Yearly Earnings.
	\$	No.	\$			
1917.....	420,094,869	552,968	760	100.0	100.0	100.0
1918.....	480,949,599	547,599	878	115.5	113.8	101.4
1919.....	496,570,995	529,327	938	123.4	125.3	98.4
1920.....	583,853,225	526,571	1,109	145.9	145.2	100.0
1921.....	381,910,145	381,203	1,002	131.8	127.6	103.4
1922.....	374,212,141	398,390	939	123.6	116.8	105.5
1923.....	428,731,347	446,994	959	126.1	116.8	107.1
1924.....	420,269,406	432,273	972	127.9	114.5	111.1
1925.....	452,958,655	466,602	971	127.8	116.0	110.0
1926.....	501,144,989	499,745	1,003	132.0	116.8	113.3
1927.....	531,583,250	533,450	997	131.3	115.1	114.4
1928.....	580,428,493	566,780	1,024	134.8	115.6	116.1
1929.....	624,302,170	597,827	1,045	137.5	116.8	117.7

Percentages of Wages and Salaries to Value of Products.—Table 25 shows the relation between wages and salaries paid by manufacturers and the total net value of production. Figures of gross production are often used in such calculations, but the values out of which the wages of employees must in the long run come are the values added to the raw materials while they are in the factory. Such added values constitute the real production of the manufacturing plant and are alone available for payment of wages and salaries, of interest, rent and taxes, charges for fuel, power, lighting, repairs, and all other overhead charges. The percentage of salaries was highest in the years 1921, 1922 and 1924. These were years in which manufacturing production was curtailed and it is probable that, salaried employees being a part of the organization of an industry rather than of its productive force, salaries were an abnormally high percentage of the lower levels of production then prevailing. The percentage has declined with the increasing manufacturing production since 1922, but in 1929 was still much higher than in 1917. It should be borne in mind, however, that salaried employees increased by 40·5 p.c. in the period, while wage-earners increased only 7·5 p.c. (Table 18). The percentage of wages has fluctuated much less than that of salaries. The number of wage-earning employees may be more readily adjusted to the activity of the industry and wage levels likewise more readily adjusted to the price levels of the products. The percentage of wages to the values added in manufacture was thus almost the same in 1929 as in 1917. The percentage was highest in 1920, when, in the post-war inflation, average wages were highest (Table 24) and the efficiency of production lowest (Table 18).

25.—Percentages of Wages and Salaries Paid to Total Net Value of Manufacturing Production, 1917-29.

Year.	Value added by Process of Manufacture.	Salaries Paid.	Wages Paid.	Percentage—		
				of Salaries to Values Added.	of Wages to Values Added.	of Total Salaries and Wages to Values Added.
	\$	\$	\$	p.c.	p.c.	p.c.
1917.....	1,332,180,767	89,287,158	420,094,869	6·7	31·5	38·2
1918.....	1,460,723,777	101,507,889	480,949,599	6·9	32·9	39·8
1919.....	1,509,870,745	121,892,144	496,570,995	8·1	32·9	41·0
1920.....	1,686,978,408	148,267,360	583,853,225	8·8	34·6	43·4
1921.....	1,209,143,344	136,874,992	381,910,145	11·3	31·6	42·9
1922.....	1,198,434,407	136,219,171	374,212,141	11·4	31·2	42·6
1923.....	1,311,025,375	142,738,681	428,731,347	10·9	32·7	43·6
1924.....	1,256,643,901	139,614,639	420,269,406	11·1	33·4	44·5
1925.....	1,360,879,907	143,056,516	452,958,655	10·5	33·3	43·8
1926.....	1,492,645,039	152,705,944	501,144,989	10·2	33·6	43·8
1927.....	1,635,923,936	162,348,978	531,583,250	9·9	32·5	42·4
1928.....	1,819,046,025	174,770,879	580,428,493	9·7	31·9	41·5
1929.....	1,997,350,365	188,747,672	624,302,170	9·5	31·3	40·7

Subsection 4.—Size of Manufacturing Establishments.

An essential characteristic of the recent evolution of industry has been the increase in the size of the typical manufacturing establishment. The full utilization of highly specialized machinery necessitates large-scale production, while the improvements in transportation have widened the market, and the development of more efficient methods of business administration has made it possible for the individual manufacturer to supervise effectively a larger plant. An increase in the scale of production of the typical manufacturing establishment has been experienced in all industrial countries which have been affected by the so-called "Industrial Revolution", and not least in Canada where the rise of the factory system in industry has taken place approximately since Confederation.

The size of the manufacturing establishment is generally measured either by the number of employees or by the value of product, but each of these methods has its limitations. The former takes no account of the differences in capital equipment at different times or in various industries and obviously the increased use of machinery, as in the flour-milling industry, may lead to increased production concurrently with a decrease in the number of employees. The latter measure has to be adjusted for changes in the price level; and, as between industries, it makes those which handle expensive raw materials appear to operate on a larger scale. Both measures are subject to two limitations: first, they depend on the fluctuation of business activity and the demand of the consumer; secondly, over any lengthy period of time there is the difficulty of comparability resulting from changes in the method of the census.

Thus, while it is possible in a general way to state that the average size of the manufacturing establishment in Canada has increased between 1870 and 1929, the 1929 figures are not on the same basis as the 1870 figures, especially since they do not include all the small custom and repair establishments included at the earlier date. The same difficulty arises right up to the most recent times. It is only in the last few years that the statistics have been so analysed as to be strictly comparable, and the results of this analysis are given in Tables 26 to 29.

Size as Measured by Gross Value of Products.—In Tables 26 and 27 the size of the establishments reporting to the Census of Manufactures is shown by the gross value of products—Table 26 giving comparative figures for 1922 (the first year for which the figures are available) and 1929, and Table 27 the figures by provinces for 1929.

The comparative Table 26 shows that, while in 1922 the 420 establishments which had each a gross production of over \$1,000,000 had an aggregate value of products of \$1,268,056,129 or 51 p.c. of the total production of all manufacturing industries, the 719 establishments producing over \$1,000,000 each in 1929 had an aggregate value of products of \$2,516,064,954, or 62 p.c. of the grand total for all manufacturing establishments—a very significant change in the short period of seven years when the general trend of prices of manufactured goods was slightly downward.

26.—Manufacturing Establishments Grouped According to Gross Values of Products, with Total and Average Values of Products in each Class, for Canada, 1922 and 1929.

Group.	1922.			1929.		
	Estab-lish-ments.	Total Production.	Average Pro-duction.	Estab-lish-ments.	Total Production.	Average Pro-duction.
Gross Value of Products.	No.	\$	\$	No.	\$	\$
Under \$25,000.....	14,978	114,205,770	7,625	14,024	106,735,470	7,611
\$ 25,000 but under \$ 50,000..	2,401	85,075,807	35,433	2,802	99,529,725	35,521
50,000 " 100,000..	1,793	129,320,947	72,125	2,209	156,308,744	70,760
100,000 " 200,000..	1,355	191,675,689	141,458	1,688	237,532,492	140,718
200,000 " 500,000..	1,078	330,533,712	308,617	1,519	504,218,217	331,941
500,000 " 1,000,000..	516	363,341,076	704,149	636	443,597,677	697,481
1,000,000 " 5,000,000..	364	692,463,530	1,902,372	601	1,217,866,089	2,026,400
5,000,000 and over.....	56	575,592,599	10,278,439	118	1,298,198,865	11,001,685
Totals.....	22,541	2,482,209,130	110,119	23,597	4,063,987,279	172,275

27.—Manufacturing Establishments, Grouped According to Gross Values of Products, with Total Values of Products in each Class, by Provinces, 1929.

Group.	Prince Edward Island.		Nova Scotia.		New Brunswick.	
	Estab-lishments.	Production.	Estab-lishments.	Production.	Estab-lishments.	Production.
Gross Value of Products. (000 omitted.)	No.	\$	No.	\$	No.	\$
Under \$ 25.....	231	1,543,848	874	8,051,608	606	4,401,478
\$ 25—\$ 50.....	29	1,065,503	124	4,394,050	88	3,076,951
50—100.....	8	589,290	83	5,697,216	54	3,610,762
100—200.....	81	1,440,084	54	7,493,177	45	6,063,822
200—500.....			44	14,124,897	41	12,846,444
500—1,000.....	—	—	5	3,678,228	11	7,616,019
1,000—5,000.....	—	—	7	16,402,873	151	33,818,490
5,000 and over.....	—	—	4	34,450,767		
Totals.....	276	4,638,725	1,195	94,292,816	860	71,433,966

	Quebec.		Ontario.		Manitoba.	
	Estab-lishments.	Production.	Estab-lishments.	Production.	Estab-lishments.	Production.
Under \$ 25.....	4,773	19,980,558	5,137	55,060,392	488	4,177,648
\$ 25—\$ 50.....	703	24,638,398	1,352	48,136,976	106	3,735,087
50—100.....	534	37,502,629	1,067	76,347,830	111	8,141,299
100—200.....	398	56,629,931	837	117,512,051	85	12,307,559
200—500.....	393	122,074,357	787	275,917,299	74	22,759,336
500—1,000.....	156	109,325,043	353	243,730,301	21	13,702,668
1,000—5,000.....	151	312,362,613	328	660,923,625	34	69,731,822
5,000 and over.....	48	478,099,463	49	625,462,314	4	30,353,708
Totals.....	7,156	1,160,612,992	9,910	2,103,090,788	923	164,909,127

	Saskatchewan.		Alberta.		British Columbia.	
	Estab-lishments.	Production.	Estab-lishments.	Production.	Estab-lishments.	Production.
Under \$ 25.....	537	2,749,812	490	4,519,135	888	6,250,991
\$ 25—\$ 50.....	69	2,484,939	128	4,687,155	203	7,310,666
50—100.....	65	4,579,649	80	5,556,106	207	14,283,963
100—200.....	43	5,743,010	45	6,471,263	174	24,315,545
200—500.....	25	7,394,857	32	9,734,694	122	38,922,383
500—1,000.....	12	9,072,223	19	14,171,792	59	42,301,403
1,000—5,000.....	7	16,904,181	20	38,608,324	40	76,935,078
5,000 and over.....	3	31,572,488	3	23,808,323	6	66,630,885
Totals.....	761	80,501,159	817	107,556,792	1,699	276,950,914

¹ Includes one of the larger class grouped with those of the smaller class to avoid showing the individual production of any one establishment.

Size of Establishments as Measured by Number of Employees.—In Tables 28 and 29 the establishments reporting to the Census of Manufactures are classified by the number of their employees. In the comparative Table 28, it is shown that out of a total increase of 168,324 employees in our manufacturing industries between 1923 and 1929, 76,806, or almost 46 p.c., were in establishments with over 500 employees.

28.—Number of Establishments and of Employees in Canadian Manufactures, Grouped According to the Number of Employees per Establishment, 1923 and 1929.

Group.	1923.			1929.		
	Establishments.	Employees.	Average Employed.	Establishments.	Employees.	Average Employed.
	No.	No.	No.	No.	No.	No.
Fewer than 5 employees.....	13,156	23,632	1.7	12,273	30,446	2.5
5 to 20 employees.....	5,310	53,852	10.1	6,160	62,310	10.1
21 " 50 "	2,093	67,408	32.2	2,531	81,846	32.4
51 " 100 "	1,031	73,449	71.2	1,262	90,238	71.5
101 " 200 "	566	79,737	140.8	745	103,944	139.5
201 " 500 "	374	115,585	309.0	444	136,397	307.1
501 and over.....	112	112,447	1,004.0	182	189,253	1,040.0
Totals.....	22,642	526,110	23.2	23,597	694,434	29.4

¹ In order to make the figures comparable this total is computed by dividing the employees in each establishment in each month by the actual number of months the establishment was in operation, while in Tables 1-3 of this chapter the sum was divided by 12 for all establishments (see p. 352, subsection 2).

29.—Number of Establishments and of Employees in Canadian Manufactures, by Provinces, and Average Number of Employees per Establishment, 1929.

Province.	Under 5 Employees.	5-20.	21-50.	51-100.	101-200.	201-500.	501 and over.	Total.
Prince Edward Island—								
Establishments.....	165	82	25	4	—	—	—	276
Employees.....	315	864	725	229	—	—	—	2,133
Average per establishment.....	1.9	10.5	29.0	57.2	—	—	—	7.7
Nova Scotia—								
Establishments.....	547	442	132	45	16	9	4	1,195
Employees.....	1,549	4,587	4,143	2,986	1,923	2,781	2,997	20,966
Average per establishment.....	2.8	10.3	31.3	66.3	120.1	309.0	749.2	17.5
New Brunswick—								
Establishments.....	367	312	117	36	14	9	5	860
Employees.....	904	3,171	3,536	2,465	1,863	2,862	3,716	18,517
Average per establishment.....	2.4	10.1	30.2	68.4	133.1	318.0	743.2	21.6
Quebec—								
Establishments.....	4,296	1,476	660	326	192	134	72	7,155
Employees.....	7,513	15,083	21,412	23,236	26,600	42,263	77,360	213,467
Average per establishment.....	1.7	10.2	32.4	71.2	138.5	315.3	1,074.4	29.8
Ontario—								
Establishments.....	4,779	2,698	1,130	596	387	232	88	9,910
Employees.....	16,163	27,154	37,006	42,388	54,851	70,937	91,360	329,859
Average per establishment.....	3.3	10.1	32.7	71.1	141.7	305.7	1,038.1	34.8
Manitoba—								
Establishments.....	421	267	124	62	24	20	5	922
Employees.....	800	2,735	4,025	4,310	3,241	5,745	5,462	26,318
Average per establishment.....	1.9	10.1	32.4	69.5	135.0	287.2	1,092.4	28.5
Saskatchewan—								
Establishments.....	538	143	45	21	9	4	1	761
Employees.....	797	1,300	1,435	1,453	1,271	1,046	745	8,047
Average per establishment.....	1.4	9.1	31.8	69.1	141.2	261.5	745.0	10.6
Alberta—								
Establishments.....	481	203	66	35	23	8	1	817
Employees.....	1,024	1,892	2,086	2,503	3,034	2,655	554	13,748
Average per establishment.....	2.1	9.3	31.6	71.5	131.9	331.8	554.0	16.8
British Columbia—								
Establishments.....	679	537	232	137	80	28	6	1,699
Employees.....	1,381	5,524	7,478	10,668	11,161	8,108	7,059	51,379
Average per establishment.....	2.0	10.2	32.2	77.8	139.5	289.5	1,176.5	30.2

Subsection 5.—Power and Fuel.

Power.—The power equipment installed in manufacturing establishments is a very good barometer of the industrial development of Canada, inasmuch as the production is increasingly dependent on the power equipment. Increases and decreases in productive capacity, measured in horse-power, are not the result of temporary fluctuations in costs and values in the same manner as capital investments, values of products, etc. Power equipment will not reflect temporary depressions, but over a period of several years will indicate industrial growth or decline.

Central electric stations, which generate electricity for both lighting and power purposes, are included in Table 30 with the other groups of industries and are included also with the industries of each province. Internal combustion engines include all gasoline engines, natural, coal and producer gas engines, and diesel and semi-diesel or other engines which produce power by burning the fuel in the cylinder.

Comparisons with the data for 1928 show an increase of 331,783 h.p. or 5.3 p.c. in 1929 in the total primary power equipment installed in manufacturing establishments, by far the largest increase amounting to 310,543 h.p. being in the central electric stations, there being a decrease in primary power installation in some of the other groups due to the replacement of steam equipment by electrical equipment operated by purchased power. The water-power development of central electric stations increased by 273,396 h.p., while steam power installed increased by 31,330 h.p. and internal combustion engines by 5,817 h.p. Provinces with large water-power developments usually show the greatest primary power increases. In 1929, however, while Quebec still led with an increase of 161,148 h.p., New Brunswick came second with an increase of 58,552 h.p., Ontario third with an increase of 43,588 h.p., British Columbia fourth with an increase of 36,143 h.p. and Alberta fifth with an increase of 24,304 h.p. In the utilization of hydraulic power Quebec exceeded Ontario for the first time in 1925. In 1927, Quebec exceeded Ontario or any other province in the total of installed primary power from all sources and has been the leading province since then largely owing to its extensive water-power resources, 92 p.c. of its primary power in 1929 being derived from water.

The rapid increase in the development of power in Canada and in its utilization in manufacturing industries is illustrated by the summary figures for the years 1921 to 1929 in Table 30. The abundance of readily available water power in many parts of Canada, facilitating the development of low-cost hydro-electric power, has no doubt played a large part in this rapid growth. Of the total primary power increase of 3,434,581 h.p. in the 8 years, no less than 3,045,562 h.p. or 89 p.c. was in water power. However, some sections of Canada are not so well provided with water-power resources and chiefly in such sections primary power derived from steam engines and turbines and internal combustion engines has also increased rapidly during the period covered. In the provinces of Prince Edward Island, Nova Scotia, Saskatchewan and Alberta primary power produced from fuels exceeded that from water in 1929. The total installation of electric motors increased 2,120,322 h.p. or 209 p.c. in the 8 years covered, by far the greatest part of this increase being in motors operated by power purchased from central electric stations.

30.—Totals, for Canada, of Power Installed in the Manufacturing Industries, 1921-29, with Details by Provinces and Groups of Industries for 1929.

NOTE.—Total power equipment employed (Col. 8) is the sum of total primary power (Col. 4) and electric motors operated by purchased power (Col. 5). In the case of the groups of industries, since this purchased power is all generated by central electric stations, there is no duplication in the figures for each group of total power equipment employed (Col. 8). There would be duplication, however, by the amount of purchased power (Col. 5) in totals for Canada and each of the provinces. These totals are therefore omitted. The net growth in the power developed in Canada is shown in Col. 4 for the years 1921 to 1929.

Province and Group.	Primary Power.				Electric Motors.			Total Power Equipment Employed.
	Steam Engines and Turbines.	Internal Combustion Engines.	Hydraulic Turbines and Water Wheels.	Total Primary Power.	Operated by Purchased Power.	Operated by Power Generated by Establishments.	Total Electric Motors.	
	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.	Col. 6.	Col. 7.	Col. 8.
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
Totals, 1921...	764,725	53,567	2,318,865	3,137,157	—	—	1,014,216	—
Totals, 1922...	833,756	87,022	2,691,084	3,611,862	—	—	1,162,649	—
Totals, 1923...	827,870	64,020	2,869,738	3,761,628	958,692	357,136	1,315,828	—
Totals, 1924...	944,267	72,491	3,283,146	4,299,904	1,256,183	398,001	1,654,184	—
Totals, 1925...	992,916	77,435	4,012,756	5,083,107	1,547,754	434,678	1,982,432	—
Totals, 1926...	1,018,535	78,554	4,213,013	5,310,102	1,770,334	392,322	2,162,656	—
Totals, 1927...	1,038,931	79,753	4,562,607	5,681,291	1,924,687	386,555	2,311,242	—
Totals, 1928...	1,053,307	83,864	5,102,784	6,239,955	2,139,129	457,565	2,596,694	—
Totals, 1929...	1,115,782	91,529	5,364,427	6,571,738	2,393,684	740,854	3,134,538	—
PROVINCE, 1929.								
P.E. Island.....	4,205	1,272	1,948	7,425	540	395	935	—
Nova Scotia.....	118,764	3,938	56,516	179,218	31,567	44,028	75,595	—
New Brunswick...	71,969	3,700	98,617	174,286	35,159	9,865	45,024	—
Quebec.....	209,954	8,060	2,481,780	2,699,794	992,845	118,807	1,111,652	—
Ontario.....	324,030	37,787	1,849,275	2,211,092	997,525	470,487	1,468,012	—
Manitoba.....	45,861	3,371	310,958	360,190	99,859	697	100,556	—
Saskatchewan.....	74,680	16,438	—	91,118	14,863	128	14,991	—
Alberta.....	96,904	6,301	51,544	154,749	30,416	5,066	35,482	—
British Columbia..	169,415	10,662	513,789	693,866	190,910	91,381	282,291	—
GROUP OF INDUSTRIES, 1929.								
Vegetable products	57,804	12,876	39,911	110,591	215,755	24,458	240,213	326,346
Animal products...	24,203	5,597	1,728	31,528	69,740	3,098	72,838	101,268
Textiles.....	26,198	1,203	33,280	60,681	107,933	28,601	136,534	168,614
Wood and paper...	439,978	15,385	483,781	939,144	1,083,695	313,398	1,397,093	2,022,839
Iron and its products.....	144,326	21,006	4,779	170,111	359,051	326,134	685,185	529,162
Non-ferrous metals	19,726	250	69,585	89,561	262,191	24,910	287,101	351,752
Non-metallic minerals.....	30,736	3,618	4,025	38,379	172,425	13,523	185,948	210,804
Chemicals.....	17,540	335	8,320	26,195	57,740	6,732	64,472	83,935
Miscellaneous industries.....	7,630	384	91	8,105	65,154	—	65,154	73,259
Central electric stations.....	347,641	30,875	4,718,927	5,097,443	—	—	—	5,097,443

Fuel.—The fuel used in industrial establishments in 1929 included 7,062,234 tons of bituminous coal, valued at \$39,315,723, constituting 61 p.c. of the total fuel cost. The other chief fuels in order of value were: fuel oil comprising 13.6 p.c., gas (principally natural gas) 9.7 p.c., wood 4.2 p.c., coke 3.7 p.c. and anthracite coal 3.1 p.c. Out of a fuel account of over \$64,000,000, Ontario expended \$31,000,000 or 48.7 p.c. of the total. The manufacturing concerns of Quebec expended \$17,600,000, those of British Columbia \$4,000,000 and those of Nova Scotia nearly \$3,200,000.

The groups of industries in which fuel was most extensively used in 1929 were: non-metallic minerals, \$14,882,000; wood and paper, \$14,432,000; iron and steel, \$11,779,000; and vegetable products, \$7,095,000. Fuel is used quite generally throughout the industrial field for the generation of power by means of internal combustion and steam engines. The principal industries where fuel is used as a material that enters into the actual composition of the product are the manufactures of coke and gas. The most important industries where heat is applied directly to materials to transform them or to facilitate their manipulation are foundries and machine shops, blast-furnaces and steel mills, smelting plants, brick-, tile-, lime- and cement-making, petroleum refining and the glass industry.

The total annual expenditure on fuel increased by \$12,784,577 or 24.8 p.c. in the 8 years from 1921 to 1929, covered by the summary figures in Table 31. During this period prices of fuels generally have declined. Thus there has been an increase of 72 p.c. in the quantity of bituminous coal used while the value has increased only 13 p.c. The fuels which have shown the greatest proportionate increases are gas and oil.

31.—Total Fuel Used in the Manufacturing Industries of Canada, 1921-29, with Details by Provinces and Groups, 1929.

Province and Group.	Bituminous Coal.		Anthracite Coal.	Coke.	Oil.	Wood.	Gas.	Total. ¹
	Quantity.	Value.						
	tons.	\$	\$	\$	\$	\$	\$	\$
Totals, 1921...	4,103,071	34,752,681	2,915,752	2,497,400	5,417,800	-	-	51,640,912
Totals, 1922...	4,101,463	29,914,585	3,616,185	3,299,016	5,649,071	2,085,444	1,616,802	48,920,505
Totals, 1923...	5,338,446	38,283,135	4,614,239	3,238,257	6,241,692	2,514,157	1,904,058	58,736,938
Totals, 1924...	5,518,255	34,438,554	4,642,654	2,250,232	5,780,752	2,595,064	4,711,186	57,068,214
Totals, 1925...	5,902,197	34,034,531	2,564,489	5,045,239	7,246,961	2,700,979	3,570,180	57,818,701
Totals, 1926...	6,409,227	36,723,359	2,266,935	4,176,584	7,371,769	2,645,505	4,233,073	59,695,997
Totals, 1927...	6,470,803	36,053,827	2,435,720	3,890,378	7,220,529	2,492,495	5,272,735	60,106,218
Totals, 1928...	6,639,736	37,871,736	2,070,989	1,819,347	7,300,552	2,439,104	5,434,805	59,761,267
Totals, 1929...	7,062,234	39,315,723	1,986,332	2,354,542	8,778,491	2,693,629	6,214,847	64,425,489
PROVINCE, 1929.								
P. E. Island.....	12,466	76,443	636	4,287	10,702	10,926	-	105,290
Nova Scotia.....	353,390	1,721,093	19,035	223,415	525,329	69,615	603,665	3,197,827
New Brunswick....	261,808	1,346,426	12,498	29,846	64,998	196,163	18,624	1,681,023
Quebec.....	2,067,638	12,285,535	1,013,973	424,047	2,337,402	709,505	611,930	17,613,796
Ontario.....	3,697,929	20,011,976	841,534	1,393,641	3,278,529	964,945	4,045,553	31,336,962
Manitoba.....	178,985	1,334,774	82,343	71,131	231,282	231,212	141,305	2,572,661
Saskatchewan.....	88,961	601,298	10,682	78,273	455,562	51,643	177,031	2,172,706
Alberta.....	145,728	541,862	348	23,427	125,257	32,048	460,178	1,678,531
British Columbia and Yukon.....	255,329	1,396,316	5,283	106,475	1,749,430	427,572	156,561	4,066,693
GROUP OF INDUSTRIES, 1929.								
Vegetable products	709,319	3,718,816	509,436	477,733	761,040	505,851	692,583	7,094,888
Animal products...	356,134	2,108,686	49,041	42,104	190,624	500,952	688,352	3,232,754
Textiles.....	471,389	2,952,181	199,865	46,037	92,575	55,791	89,273	3,557,962
Wood and paper....	2,020,532	11,532,879	714,533	23,389	837,021	811,176	160,551	14,431,777
Iron and steel.....	1,209,714	5,945,548	286,614	612,179	2,420,758	77,467	1,975,220	11,779,052
Non-ferrous metals	356,864	2,206,024	52,533	262,505	1,168,347	8,132	185,592	3,932,473
Non-metallic minerals.....	1,373,331	7,852,484	72,025	774,020	2,334,632	662,608	2,905,627	14,882,045
Chemicals.....	305,350	1,551,275	49,245	71,771	69,480	14,166	26,545	1,841,368
Miscellaneous industries.....	63,884	407,292	23,932	44,804	108,851	7,884	52,726	658,775
Central electric stations.....	195,717	1,040,538	29,108	-	795,163	49,602	58,378	3,014,395

¹Includes other kinds of fuel which, in 1929, were as follows: lignite coal, \$1,759,415; gasolene, \$470,302; other fuels, \$852,208.

Section 5.—Manufacturing Industries in Cities and Towns.

The prosperity of most of the cities and towns of Canada, especially in the East, is intimately connected with their manufacturing industries, which provide employment for a large proportion of their gainfully employed population. In the West the cities are more largely distributing centres, though manufactures are rapidly increasing there also.

Table 32, indicating the extent to which the manufacturing industries of Canada are concentrated in urban centres, shows by provinces the proportion of the gross manufacturing production which is produced in cities and towns having a gross production of over \$1,000,000 each. In the more highly industrialized provinces of Ontario and Quebec such cities and towns account for about 90 p.c. of the total, while in British Columbia and Prince Edward Island, where sawmilling, fish-packing, and dairying are leading industries, the proportion falls to 55 p.c. or less. In the Prairie Provinces manufacturing is largely confined to a few large urban centres.

The seven chief manufacturing cities of Canada have been Montreal, Toronto, Hamilton, Winnipeg, Vancouver, Oshawa and Ottawa, although a number of other cities had a larger production than Ottawa in 1929. Statistics showing the trend of production in these cities during the last 8 years for which the figures are available are given in Table 33. In the last two cities production was lower in 1929 than in 1928. The drop was especially pronounced in Ottawa, probably due to the fact that the wood and paper industries were in an unfavourable position even before the general depression began at the end of 1929.

According to the census of 1921, Hamilton was proportionately the most largely dependent of these cities upon manufacturing industries. About 45 p.c. of its gainfully employed population was employed in manufacturing industries, as compared with 30 p.c. in Montreal and Toronto, 17 p.c. in Winnipeg and Vancouver and 13 p.c. in Ottawa.

Twenty-five other important cities with a gross production of manufactured goods of over \$20,000,000 each in 1929 were as follows, in descending order of the value of their products: Walkerville, East Windsor, London, Kitchener, Niagara Falls, Calgary, Three Rivers, Shawinigan Falls, Quebec, Peterborough, Brantford, Regina, Sarnia, New Toronto, Edmonton, Sault Ste. Marie, Windsor, Montreal East, Lasalle, Lachine, St. Boniface, Welland, Saint John, Sherbrooke and Leaside. Statistics of manufactures of cities and towns with a gross production of \$200,000 and over and with three or more establishments are given for 1929 in Table 34.

32.—Cities and Towns with a Gross Manufacturing Production of over \$1,000,000 each, Number of Establishments and Total Gross Production in such Cities and Towns as a Percentage of the Grand Total, by Provinces, 1929.

Province.	Cities and Towns with a Gross Production of over \$1,000,000 each.	Establishments Reporting in Cities and Towns Producing over \$1,000,000 each.	Total Production in Cities and Towns Producing over \$1,000,000 each.	Total Production in each Province.	Production in Cities and Towns as a Percentage of Total Production in each Province.
	No.	No.	\$	\$	p.c.
Prince Edward Island.....	1	31	2,112,410	4,638,725	45.5
Nova Scotia.....	9	284	75,765,097	94,292,816	80.4
New Brunswick.....	9	263	49,484,429	71,433,966	69.2
Quebec.....	59	2,951	1,051,399,907	1,160,612,992	90.6
Ontario.....	121	6,132	1,882,367,573	2,103,090,788	89.5
Manitoba.....	7	607	152,158,266	164,909,127	92.3
Saskatchewan.....	4	183	69,401,289	80,801,159	86.2
Alberta.....	5	333	90,721,278	107,556,792	83.4
British Columbia.....	14	989	152,462,730	276,950,914	55.5
Canada.....	229	11,773	3,525,872,979	4,063,987,279	86.8

**33.—Principal Statistics of the Manufacturing Industries of Six Leading
Manufacturing Cities of Canada, 1922-29.**

City.		Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
		No.	\$	No.	\$	\$	\$
Montreal.....	1922	1,461	350,839,911	78,100	81,829,111	198,697,089	389,098,176
	1923	1,451	473,624,425	85,603	93,943,718	226,198,441	459,254,656
	1924	1,560	469,354,640	86,648	94,725,516	224,134,382	444,852,084
	1925	1,661	517,209,355	90,584	98,441,694	233,287,050	460,252,857
	1926	1,736	543,557,131	96,141	109,364,475	275,714,382	556,236,407
	1927	1,823	552,788,702	98,353	113,797,512	259,104,230	540,267,591
	1928	1,834	481,181,947	101,668	119,226,844	273,015,114	554,311,571
	1929	1,818	554,500,877	112,338	131,969,796	337,105,620	637,906,135
Toronto.....	1922	1,811	392,469,184	78,833	92,930,846	205,568,765	394,065,052
	1923	1,933	389,772,678	82,267	97,417,033	210,786,422	409,829,557
	1924	1,928	410,244,068	80,001	96,554,310	213,493,889	401,367,127
	1925	1,957	429,165,022	82,728	100,766,782	246,399,340	447,098,824
	1926	2,013	451,233,965	86,439	107,734,568	270,290,114	489,522,114
	1927	2,092	475,475,308	92,238	115,556,907	270,275,071	520,066,313
	1928	2,221	505,207,658	100,034	125,579,599	293,830,796	565,444,323
	1929	2,236	549,328,334	102,406	133,722,929	304,208,614	593,253,569
Hamilton.....	1922	437	143,168,098	23,476	26,256,146	50,844,910	100,280,131
	1923	436	170,378,119	25,797	31,399,136	77,140,899	141,097,732
	1924	427	170,993,755	23,772	28,513,251	56,884,010	118,591,000
	1925	415	166,294,590	23,619	27,977,960	62,102,984	122,207,849
	1926	417	172,345,587	27,087	33,244,170	74,066,846	146,037,029
	1927	422	179,328,754	29,210	36,984,470	72,757,263	152,107,454
	1928	426	201,584,803	30,787	40,276,968	79,114,898	166,262,355
	1929	416	221,427,642	35,375	47,535,648	94,404,240	197,949,081
Winnipeg.....	1922	436	46,251,208	10,679	13,858,116	36,766,668	66,925,392
	1923	424	70,788,577	11,542	14,704,566	38,172,282	70,529,471
	1924	411	87,489,506	11,934	15,395,262	40,837,275	74,755,670
	1925	409	89,638,323	14,346	18,390,797	42,388,504	79,614,829
	1926	446	96,801,995	15,474	20,086,607	46,501,703	87,696,243
	1927	468	108,635,882	16,759	21,290,167	48,921,620	95,590,961
	1928	491	115,678,092	18,340	23,994,480	35,275,785	105,456,065
	1929	501	125,321,028	19,150	25,216,832	55,116,644	109,320,746
Vancouver.....	1922	485	75,030,953	10,598	10,579,482	35,507,418	63,172,964
	1923	507	80,053,568	11,400	13,815,995	40,518,790	71,221,905
	1924	498	93,699,451	13,417	16,920,959	43,691,647	77,860,759
	1925	507	102,105,028	13,334	16,384,973	42,020,970	75,823,721
	1926	523	106,624,727	14,781	18,347,299	46,120,382	84,831,423
	1927	556	116,754,995	14,897	19,254,035	47,290,240	87,754,347
	1928	620	123,029,880	16,013	20,263,435	49,597,035	94,131,608
	1929	639	129,078,372	16,663	21,882,312	50,933,163	99,646,413
Oshawa.....	1922	34	20,658,430	4,052	4,883,478	28,535,248	40,131,834
	1923	34	23,978,144	5,019	6,223,833	33,338,313	43,876,305
	1924	35	21,311,534	4,554	5,301,282	25,996,264	37,918,699
	1925	34	21,832,973	4,987	6,269,918	30,345,887	47,529,284
	1926	33	23,935,711	5,611	7,391,465	34,447,446	54,571,595
	1927	35	31,883,066	6,846	10,127,271	50,763,745	77,631,290
	1928	37	38,643,526	8,715	12,992,374	56,182,896	84,894,222
	1929	39	35,545,303	7,182	11,084,499	43,619,954	66,317,911

34.—Statistics of Manufactures of Municipalities with a Gross Production of \$200,000 or over, and with Three or more Establishments, 1929.

City or Town.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Prince Edward Island—						
Charlottetown.....	31	2,088,981	464	466,015	1,114,034	2,112,410
Summerside.....	16	495,029	119	84,082	135,655	322,744
Nova Scotia—						
Sydney.....	30	40,943,442	2,313	3,523,329	8,863,116	19,429,966
Dartmouth.....	14	16,735,609	914	1,286,384	12,353,759	16,160,775
Halifax.....	111	34,257,910	4,132	4,548,583	5,701,791	15,988,940
Trenton.....	3	8,653,280	1,391	1,943,609	7,766,896	11,603,045
Truro.....	29	5,031,296	955	738,857	2,100,055	3,935,124
Amherst.....	25	5,040,940	770	788,625	1,168,839	2,665,143
Yarmouth.....	30	3,153,081	518	461,549	1,289,043	2,566,450
New Glasgow.....	30	2,685,368	719	723,285	832,413	2,291,640
Windsor.....	12	2,431,969	311	276,642	577,197	1,124,014
Canso.....	5	387,415	196	141,341	341,925	735,232
Bridgewater.....	17	888,195	184	141,025	408,401	701,492
Pictou.....	10	468,893	282	142,376	304,457	554,763
Stellarton.....	11	771,223	77	69,790	158,131	539,917
North Sydney.....	13	222,726	140	131,804	191,783	465,097
Lockport.....	6	416,277	139	68,441	274,230	438,987
Port Hawkesbury.....	5	460,810	121	85,563	298,515	427,813
Digby.....	8	369,857	74	60,094	234,058	377,716
Oxford.....	12	321,579	153	101,910	190,954	364,706
Clarks Harbour.....	8	37,237	78	20,774	259,233	315,368
Middleton.....	6	281,304	50	51,591	208,267	309,579
Shelburne.....	17	306,502	134	112,984	133,606	308,473
Stewiacke.....	5	153,824	110	64,077	170,728	283,305
Wolfville.....	7	192,249	80	49,149	137,778	278,553
Liverpool.....	10	376,712	138	99,806	132,076	274,237
Glace Bay.....	7	271,634	55	66,134	31,984	258,304
Bridgetown.....	9	609,952	117	71,932	112,098	247,922
Annapolis.....	8	298,988	76	46,315	129,569	226,178
Hantsport.....	4	394,884	98	79,417	90,228	220,768
New Brunswick—						
Saint John.....	126	26,888,010	3,630	3,746,028	14,210,579	23,201,405
Moncton.....	40	8,158,386	2,419	3,071,413	4,258,123	8,497,214
Edmundston.....	10	10,162,725	666	706,319	2,352,582	5,183,329
Bathurst.....	14	9,618,254	602	833,430	1,756,151	3,598,439
St. Stephen.....	17	2,676,985	598	560,686	1,610,494	2,902,944
Fredericton.....	29	3,807,991	621	583,949	1,123,565	2,355,521
Campbellton.....	12	3,039,703	345	311,391	645,986	1,348,682
Sackville.....	12	1,632,009	453	466,849	418,374	1,276,371
Milltown.....	3	2,605,040	691	532,211	547,127	1,120,524
Newcastle.....	12	2,906,005	140	209,786	501,522	954,025
Chatham.....	10	3,419,657	103	197,789	485,202	936,655
Sussex.....	13	488,657	195	137,547	435,207	876,554
Grand Falls.....	10	13,619,193	106	99,858	118,436	612,922
Dalhousie.....	3	251,523	53	35,363	204,970	319,319
Woodstock.....	18	464,418	113	99,243	76,428	241,968
Port Elgin.....	7	168,334	108	52,181	112,133	216,107
Quebec—						
Montreal.....	1,818	554,500,877	112,338	131,969,796	337,105,620	637,906,135
Three Rivers.....	56	84,985,634	7,002	7,792,197	18,045,761	42,477,807
Shawinigan Falls.....	24	175,265,816	3,591	5,135,068	17,130,956	40,746,648
Quebec.....	244	68,054,042	10,076	9,854,134	17,184,311	39,826,822
Montreal East.....	5	31,100,360	1,998	3,069,618	16,306,359	25,911,456
La Salle.....	6	22,427,694	1,186	1,706,028	8,990,376	25,837,602
Lachine.....	29	28,112,579	3,554	5,946,077	9,106,195	25,431,899
Sherbrooke.....	74	23,754,176	4,962	5,040,411	10,697,613	23,154,974
Granby.....	28	10,372,455	3,009	2,531,466	4,883,452	12,481,792
Port Alfred.....	3	39,012,823	994	1,515,530	5,690,109	10,348,787
Valleyfield.....	28	12,421,780	2,751	2,104,596	3,647,825	10,261,077
Drummondville.....	16	19,483,310	2,321	2,045,538	5,046,442	10,148,276
Hull.....	37	10,815,418	2,146	2,370,946	4,184,714	9,930,547
Magog.....	14	6,600,421	1,641	1,318,081	6,243,932	9,011,909
St. Johns.....	42	9,653,654	3,185	3,208,164	4,008,115	8,910,962
St. Jérôme.....	26	8,706,996	2,277	1,995,726	2,917,330	8,866,672
St. Hyacinthe.....	47	9,977,327	2,573	1,912,098	4,484,954	8,166,801
Grand Mère.....	14	20,380,121	1,228	1,754,216	2,355,759	6,253,169
Kenogami.....	3	16,374,798	816	1,369,589	2,296,256	6,053,061
La Tuque.....	13	11,963,412	821	1,234,427	1,953,850	4,700,575
East Angus.....	7	8,613,280	738	832,862	2,522,239	4,484,553

34.—Statistics of Manufactures of Municipalities with a Gross Production of \$200,000 or over, and with Three or more Establishments, 1929—continued.

City or Town.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Quebec—continued.						
Westmount.....	13	3,571,758	860	1,242,964	1,434,470	4,283,884
Belœil.....	9	4,407,462	244	313,116	1,073,771	3,837,471
Donnacoona.....	3	12,242,971	614	977,330	1,312,119	3,833,697
Victoriaville.....	23	2,675,628	1,280	1,061,700	1,617,828	3,775,862
Verdun.....	16	3,770,614	811	893,842	1,501,282	3,246,287
St. Joseph d'Alma.....	5	15,732,287	508	852,881	753,207	3,134,200
Outremont.....	6	2,412,944	674	807,358	1,328,146	2,961,938
Brownsburg.....	3	3,179,320	531	528,117	1,091,853	2,881,187
Beauharnois.....	8	6,825,732	581	691,996	1,188,901	2,860,647
Joliette.....	39	2,445,030	717	582,772	1,170,822	2,695,603
Cowansville.....	11	2,603,172	622	611,758	1,328,123	2,627,827
St. Pierre.....	6	3,054,691	457	553,104	779,643	2,518,041
Longueuil.....	10	3,344,674	328	479,548	830,441	2,259,760
Sorel.....	20	2,928,121	1,496	1,248,088	686,941	2,220,534
Buckingham.....	13	3,448,887	489	402,662	1,101,435	2,212,726
Windor.....	11	6,029,404	663	809,553	1,079,324	2,211,437
Chicoutimi.....	26	9,108,005	576	623,294	825,353	2,123,073
Bromptonville.....	3	5,889,156	185	230,132	1,031,853	1,957,083
Laizon.....	6	2,093,058	374	468,040	646,478	1,857,236
Coaticook.....	20	2,443,756	685	436,040	1,112,579	1,823,620
Chandler.....	4	2,983,227	410	473,594	753,938	1,797,864
Delson.....	4	1,703,085	445	448,152	394,681	1,588,647
Asbestos.....	9	1,239,460	183	118,384	1,057,012	1,355,849
Rock Island.....	13	2,247,260	362	326,573	541,819	1,295,868
Berthier.....	12	7,021,971	424	356,816	619,620	1,276,024
St. Rémi.....	11	353,686	95	60,181	977,925	1,184,526
Montmagny.....	13	2,358,337	460	389,707	448,976	1,170,947
Cap de la Madeleine.....	8	381,269	90	54,169	773,114	1,125,807
Jonquière.....	10	1,831,069	224	302,321	504,610	1,068,830
Portneuf.....	10	1,408,589	216	166,609	576,955	1,067,683
Loretteville.....	21	1,114,421	452	333,428	596,384	1,056,706
La Prairie.....	8	7,456,467	438	459,840	52,570	1,049,434
Rimouski.....	9	3,208,902	303	330,479	508,167	1,045,601
Marieville.....	12	886,745	485	335,095	749,497	1,031,676
Acton Vale.....	10	722,429	234	135,943	500,520	1,008,800
St. Laurent.....	8	1,286,082	345	442,874	453,895	1,003,002
Plessisville.....	14	1,039,086	309	252,842	517,738	974,086
Farnham.....	12	963,736	242	175,944	511,033	878,638
Ste. Thérèse.....	13	1,085,719	248	198,189	371,289	838,004
Thurso.....	8	1,085,070	152	167,910	548,444	787,748
Bedford.....	4	991,782	369	274,965	74,858	783,229
Lennoxville.....	6	577,936	105	136,569	381,895	747,835
Rivière du Loup.....	17	2,039,438	301	322,555	241,761	734,073
Charlemagne.....	3	1,137,573	66	69,777	462,263	713,481
St. Raymond.....	57	937,729	208	166,797	379,805	712,879
Terrebonne.....	9	1,145,997	244	213,914	311,192	690,170
Lae au Saumon.....	3	484,063	203	113,541	325,406	661,949
Waterloo.....	12	837,152	295	232,473	263,497	613,792
Chambly Canton.....	3	927,767	141	142,281	156,039	562,226
Pont Rouge.....	13	605,144	174	100,872	349,684	554,056
St. Lambert.....	8	618,314	162	162,649	142,205	499,075
Warwick.....	10	527,944	141	124,335	293,886	487,188
Ste. Marie (Beauce).....	13	192,017	193	95,317	277,224	459,518
Contrecoeur.....	5	273,685	169	140,412	263,696	456,149
Scotstown.....	3	405,415	159	121,044	146,938	439,692
Lachute.....	8	575,694	114	69,699	87,766	427,561
Danville.....	10	414,855	142	108,170	237,561	413,488
Shawville.....	10	109,267	38	25,572	313,870	389,395
Nicolet.....	9	288,458	140	99,978	202,222	387,588
Mont Joli.....	5	261,237	111	103,346	191,139	379,173
Louiseville.....	7	165,985	170	88,512	256,688	378,452
Calumet.....	4	690,260	125	88,055	224,269	376,449
Ilvingtondon.....	9	165,567	45	45,080	217,310	376,358
Iberville.....	6	249,743	126	188,827	82,278	370,933
Megantic.....	8	695,842	119	105,238	171,731	359,965
Sutton.....	12	318,446	103	82,061	183,960	358,716
St. Tite.....	14	161,147	92	58,000	222,480	317,480
Beauceville.....	9	234,915	121	80,420	166,437	313,543
Beebe Plain.....	5	151,940	74	60,252	191,587	312,717
Amos.....	8	420,883	117	118,859	149,001	287,421
Thetford Mines.....	16	439,559	105	92,953	111,340	262,749
L'Assomption.....	6	353,909	99	75,302	134,621	259,395
Mont Laurier.....	10	189,342	45	30,289	168,873	241,527

34.—Statistics of Manufactures of Municipalities with a Gross Production of \$200,000 or over, and with Three or more Establishments, 1929—continued.

City or Town.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Quebec—concluded.						
Ste. Anne de Bellevue.....	6	628,599	76	88,203	46,753	239,247
Roberval.....	15	225,488	117	56,805	145,026	231,750
St. Casimir.....	11	216,304	84	59,771	118,181	223,220
Beauport.....	5	199,956	47	43,368	157,894	221,901
Waterville.....	4	253,471	91	56,474	101,245	221,655
Disraeli.....	5	95,579	76	56,827	132,286	210,338
Val Brilliant.....	4	471,227	61	40,359	133,688	209,266
St. Pie.....	11	136,944	65	32,409	132,316	207,589
Ontario—						
Toronto.....	2,236	549,328,334	102,406	133,722,929	304,208,614	593,253,530
Hamilton.....	416	221,427,642	35,375	47,535,648	94,404,240	197,949,081
Oshawa.....	39	35,545,303	7,182	11,034,499	43,619,954	66,317,911
Walkerville.....	56	42,453,046	5,973	9,917,274	35,991,419	64,203,435
East Windsor.....	13	41,898,796	6,697	11,254,764	33,943,575	59,617,888
London.....	231	47,413,765	10,134	11,996,633	21,102,010	50,346,829
Kitchener.....	136	40,931,499	9,559	10,518,382	23,005,798	50,314,748
Niagara Falls.....	64	46,529,499	3,370	4,967,892	26,269,857	49,890,519
Peterborough.....	80	26,206,623	5,727	6,140,108	21,254,539	37,788,540
Ottawa.....	202	56,543,292	8,604	10,578,982	16,180,685	36,098,500
Brantford.....	99	64,204,660	8,424	9,689,185	17,073,251	35,394,594
Sarnia.....	42	27,836,801	3,064	4,624,895	22,745,061	32,126,714
New Toronto.....	13	25,683,963	3,314	4,890,197	19,061,957	31,217,344
Sault Ste. Marie.....	46	61,726,462	2,527	4,511,597	13,933,100	29,768,172
Windsor.....	137	25,752,714	3,975	6,033,844	12,932,606	26,773,730
Welland.....	41	22,438,592	3,342	3,963,281	13,020,710	24,288,299
Leaside.....	8	12,976,084	1,816	2,908,683	14,910,791	21,377,821
Guelph.....	92	18,532,718	4,799	5,152,525	9,924,762	19,970,641
St. Catharines.....	105	19,169,616	4,323	5,245,579	8,742,568	19,645,601
Chatham.....	56	15,531,405	2,374	3,178,817	11,734,352	18,835,931
Galt.....	79	17,792,971	4,410	4,842,422	7,758,062	16,936,871
Cornwall.....	49	29,114,661	3,960	3,871,376	6,248,499	15,470,560
Port Colborne.....	15	11,250,012	713	1,033,857	11,248,953	14,862,831
Stratford.....	61	10,856,591	3,109	3,966,280	7,655,197	14,103,331
Woodstock.....	55	12,398,244	2,895	3,119,989	6,952,852	13,615,099
Thorold.....	17	28,921,190	1,471	2,399,864	5,577,520	12,807,000
Brockville.....	36	7,884,314	1,084	1,209,351	9,808,669	12,750,999
Fort William.....	38	29,319,893	1,260	1,633,112	5,767,321	11,578,361
Wallaceburg.....	20	7,122,347	1,236	1,570,930	6,398,709	9,999,778
Waterloo.....	36	12,207,234	1,502	1,738,738	3,881,690	9,809,141
Iroquois Falls.....	3	24,138,504	1,118	2,056,484	2,789,972	9,510,621
Kenora.....	18	18,301,969	628	877,413	5,396,933	8,728,001
Port Arthur.....	20	19,288,833	1,198	1,737,796	2,433,341	8,681,201
Fergus.....	13	1,599,616	746	821,819	2,627,718	8,463,541
Kapuskasing.....	8	30,138,117	1,198	1,810,464	2,822,560	8,135,071
Kingston.....	56	13,499,366	1,656	1,927,953	3,501,936	7,614,301
Preston.....	35	6,884,254	1,775	2,010,745	3,122,408	6,921,301
Belleville.....	54	10,005,427	1,457	1,492,116	1,689,753	6,342,301
Fort Frances.....	14	14,589,169	773	1,163,878	2,535,177	6,216,931
Owen Sound.....	55	7,892,208	1,909	1,865,308	2,617,212	5,975,341
Simco.....	32	4,134,092	737	626,339	3,186,533	5,806,331
Leamington.....	17	3,691,305	571	559,743	2,655,482	5,680,231
St. Thomas.....	48	4,378,482	1,218	1,267,892	2,719,546	5,322,601
Pembroke.....	37	5,152,793	1,322	1,120,807	2,805,932	5,130,301
Goderich.....	20	2,318,378	369	349,516	3,825,849	4,839,231
Hawkesbury.....	11	6,102,063	816	918,144	2,402,071	4,710,131
Chippawa.....	4	1,178,069	259	391,447	948,786	4,599,431
Sandwich.....	12	7,862,073	969	1,497,095	801,493	4,464,931
Weston.....	15	4,467,502	1,071	1,333,144	1,973,670	4,403,931
Midland.....	18	3,259,269	755	838,095	2,921,252	4,270,231
Elmira.....	14	2,315,353	775	773,474	1,441,516	4,073,031
Ingersoll.....	23	4,283,506	841	933,496	2,055,137	4,007,231
Acton.....	14	2,554,758	460	512,121	2,801,027	3,989,431
Newmarket.....	17	2,578,242	713	778,528	1,872,329	3,980,031
Bowmanville.....	19	3,796,384	640	655,825	1,677,515	3,962,531
Paris.....	20	5,552,897	1,150	1,072,544	1,861,389	3,913,431
St. Marys.....	20	4,954,618	471	580,805	1,723,418	3,639,431
Orillia.....	36	5,133,643	1,060	1,149,662	1,748,301	3,579,431
Cardinal.....	9	3,348,881	282	369,627	2,470,849	3,573,431
Blind River.....	6	6,262,731	388	563,395	2,078,978	3,464,131
Renfrew.....	21	4,646,320	692	744,276	1,747,019	3,437,131
Hespeler.....	15	5,624,883	1,089	1,095,492	1,594,308	3,415,131

34.—Statistics of Manufactures of Municipalities with a Gross Production of \$200,000 or over, and with Three or more Establishments, 1929—continued.

City or Town.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Ontario—continued.						
Merrittton.....	9	5,233,559	531	806,052	1,613,154	3,352,967
Dundas.....	21	4,557,537	727	979,119	1,663,733	3,268,793
Sudbury.....	27	5,061,910	462	596,934	1,447,767	3,220,534
Brampton.....	21	2,512,197	890	883,409	1,492,028	3,141,614
Perth.....	21	3,956,419	722	849,646	1,300,223	3,132,571
Amherstburg.....	10	13,862,778	278	453,147	408,074	3,064,933
Bridgeburg.....	20	2,420,145	352	527,829	1,188,261	3,051,779
Petrolia.....	14	2,494,437	253	288,817	1,825,418	2,984,057
Huntsville.....	15	4,346,565	402	357,873	2,139,121	2,897,877
Gananoque.....	22	3,694,300	680	787,835	1,420,015	2,873,106
Georgetown.....	15	2,654,551	518	546,920	1,635,381	2,805,090
Lindsay.....	35	3,664,398	478	522,206	1,316,075	2,610,634
Hanover.....	15	3,734,531	715	692,822	1,243,593	2,575,295
Aylmer.....	7	2,269,072	245	206,913	1,226,716	2,467,087
Aurora.....	9	1,342,563	417	427,498	1,742,626	2,460,509
Cobourg.....	28	2,686,454	496	445,140	1,023,884	2,456,060
Trenton.....	26	3,341,001	604	586,563	1,180,060	2,307,397
Smiths Falls.....	22	3,968,754	691	785,443	1,111,250	2,272,021
Port Hope.....	28	3,104,575	648	798,727	735,302	2,191,402
Carleton Place.....	17	2,338,761	602	642,750	860,325	2,114,850
Barrie.....	18	1,741,914	348	414,854	1,353,461	2,084,963
Caledonia.....	11	1,353,991	249	290,771	834,443	2,075,182
Dryden.....	8	5,625,532	329	451,084	814,478	2,059,632
Dunnville.....	20	2,444,495	781	717,977	935,922	2,052,553
Tilsonburg.....	20	1,118,405	399	369,232	1,195,410	2,027,658
Port Credit.....	4	2,446,195	202	246,229	1,227,850	2,016,153
Oakville.....	18	1,540,656	377	423,303	1,076,634	1,958,747
Listowel.....	19	1,125,799	508	410,477	1,026,043	1,897,665
Sturgeon Falls.....	9	7,117,109	350	528,195	1,329,698	1,888,519
Kincardine.....	14	1,614,035	477	448,968	958,492	1,850,918
Arnprior.....	15	3,659,833	506	541,983	861,401	1,832,748
Chesterville.....	7	958,330	173	240,416	1,302,697	1,855,959
Napanee.....	20	1,381,427	330	339,120	924,146	1,792,246
Milton.....	18	3,104,748	411	399,668	464,299	1,756,051
Tilbury.....	7	940,280	358	406,824	840,931	1,708,194
Meaford.....	16	1,434,426	342	298,972	980,389	1,546,652
Collingwood.....	24	4,604,697	458	493,513	790,320	1,546,011
North Bay.....	23	1,621,764	311	357,719	700,348	1,490,332
Ayr.....	7	1,139,973	112	117,328	638,590	1,463,722
Lakefield.....	19	3,122,082	158	199,015	180,988	1,446,748
New Liskeard.....	15	2,091,942	291	304,844	702,898	1,437,982
Strathroy.....	16	1,459,668	324	314,134	871,370	1,434,452
Almonte.....	19	1,610,461	445	355,758	816,270	1,432,629
Tavistock.....	11	487,178	170	150,119	1,094,308	1,369,875
Wingham.....	16	1,045,985	341	324,658	808,323	1,366,518
Cache Bay.....	3	1,085,507	217	240,639	919,950	1,267,239
Elora.....	8	1,059,600	317	335,541	374,014	1,250,459
Milverton.....	9	423,710	87	78,748	901,675	1,206,721
Grimsby.....	14	1,146,608	418	277,306	670,535	1,185,872
Chesley.....	14	1,020,875	379	355,974	529,039	1,165,232
Walkerton.....	20	2,149,448	315	290,790	623,534	1,151,955
Gravenhurst.....	9	1,668,131	375	405,908	409,070	1,138,363
Bracebridge.....	17	2,226,021	243	210,012	575,963	1,120,692
Prescott.....	16	1,038,761	269	226,919	475,141	1,111,882
Kingsville.....	12	482,901	178	146,801	746,275	1,075,909
Penetanguishene.....	14	1,172,427	347	378,589	469,894	1,055,860
Port Dalhousie.....	5	1,016,247	362	328,313	276,413	1,035,436
Campbellford.....	15	1,268,686	257	239,416	563,596	1,030,207
Clinton.....	17	812,275	216	183,884	529,739	1,005,280
Norwich.....	16	425,620	109	110,798	721,470	995,215
Frankford.....	13	2,232,152	228	147,824	558,773	993,258
Pictou.....	24	1,073,131	272	161,954	550,544	956,757
Alexandria.....	16	793,435	202	173,403	555,788	890,086
Burlington.....	9	1,188,276	223	228,526	528,509	874,243
Whitby.....	9	926,275	294	268,830	420,763	860,578
Senforth.....	15	555,481	141	134,423	562,782	855,027
Brighton.....	18	939,399	274	118,953	406,847	819,629
Mount Forest.....	17	712,351	177	145,940	507,959	825,482
Humberstone.....	8	599,664	188	173,741	451,473	734,342
Harriston.....	11	662,535	153	150,678	430,342	724,686
New Hamburg.....	11	808,459	185	171,886	412,504	699,567
Delhi.....	7	830,303	90	67,282	353,139	678,682

34. — Statistics of Manufactures of Municipalities with a Gross Production of \$200,000 or over, and with Three or more Establishments, 1929—continued.

City or Town.	Estab- lish- ments.	Capital.	Em- ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Ontario—concluded.						
Durham.....	10	524,053	204	197,343	378,063	677,548
Southampton.....	8	914,204	246	231,636	362,226	675,483
Orangeville.....	15	702,239	154	118,045	433,315	653,611
Wellington.....	9	851,945	208	95,984	355,967	648,632
West Lorne.....	7	562,599	93	88,385	460,121	628,231
Streetsville.....	9	445,653	113	233,550	257,652	616,532
Port Elgin.....	8	641,283	171	173,114	284,198	611,436
Lucknow.....	13	386,936	85	75,723	428,373	606,936
Exeter.....	11	599,570	112	70,799	366,336	594,909
Dresden.....	13	573,153	151	114,282	313,595	594,644
Forest.....	12	521,134	125	95,970	322,675	589,240
Waterford.....	8	578,220	146	77,084	388,714	579,338
Burk's Falls.....	8	780,378	232	215,610	150,052	568,744
Copper Cliff.....	3	7,054,948	36	52,772	31,804	540,434
Mitchell.....	13	582,849	100	77,880	356,198	532,824
Teeswater.....	10	235,297	43	41,534	345,862	531,604
Twedd.....	12	360,398	140	132,168	302,001	527,132
Mimico.....	7	555,079	88	124,385	14,391	520,069
Jarvis.....	6	182,637	30	29,452	416,097	517,938
Warton.....	11	382,983	99	93,215	282,750	505,634
Waterdown.....	8	576,509	99	146,720	90,359	494,892
Dutton.....	10	157,145	57	33,164	387,163	494,499
Bloomfield.....	10	786,053	199	74,346	295,503	489,533
South River.....	7	559,743	176	120,101	212,893	477,233
Essex.....	10	699,725	85	82,479	232,494	439,236
Casselman.....	12	350,401	116	71,100	306,571	428,486
Haileybury.....	5	988,370	88	97,320	147,468	401,673
Port Dover.....	11	637,450	95	64,691	234,097	394,861
Deseronto.....	10	393,507	97	85,935	209,192	394,515
Stirling.....	15	105,929	66	35,923	301,664	384,911
Timmins.....	13	700,323	105	108,284	168,968	382,837
Ridgetown.....	17	475,174	89	66,099	233,501	382,329
Hagersville.....	6	112,372	16	16,400	295,259	375,571
Palmerston.....	7	147,909	22	20,976	282,939	373,135
Sioux Lookout.....	8	555,338	72	42,891	238,000	362,573
Sherburne.....	6	129,692	26	21,688	287,730	361,183
Latchford.....	3	470,001	71	77,682	204,500	344,379
Paisley.....	10	113,492	32	23,609	253,446	328,083
Kemptville.....	9	286,170	75	58,148	149,482	314,833
Winchester.....	14	135,500	56	37,059	207,934	307,170
Neustadt.....	4	214,764	65	51,707	156,840	300,949
Port Perry.....	10	178,105	38	31,296	193,267	293,916
Watford.....	9	231,123	65	59,813	166,407	270,099
Iroquois.....	9	500,611	59	58,457	127,188	268,963
Perry Sound.....	15	508,391	92	55,613	105,678	264,234
Stayner.....	8	95,448	24	17,018	199,412	262,133
Arthur.....	4	69,437	10	9,775	208,097	255,733
Uxbridge.....	11	129,776	22	17,922	184,664	254,993
Alliston.....	12	205,300	28	27,800	177,462	253,473
Eganville.....	11	352,340	73	49,189	151,099	247,893
Bradford.....	5	204,221	57	60,965	78,986	247,133
Beamsville.....	10	118,276	57	45,655	156,517	246,393
Tara.....	7	69,877	15	13,489	188,579	236,644
Cobden.....	6	100,396	19	13,712	173,804	232,673
Markdale.....	7	104,684	30	17,232	182,795	230,093
Grand Valley.....	5	50,577	14	11,331	182,401	222,133
Stouffville.....	7	128,695	22	19,460	161,225	218,693
Markham.....	6	137,422	32	28,540	148,114	218,893
Brussels.....	7	57,795	15	10,378	177,424	217,663
Bolton.....	6	94,995	17	14,952	170,460	213,933
Clifford.....	6	41,492	13	7,365	160,661	213,893
Bancroft.....	10	106,117	73	22,831	143,654	213,063
Tottenham.....	4	61,157	14	13,146	163,275	211,673
Belle River.....	5	371,939	44	41,903	67,057	206,044
Sutton West.....	4	100,689	22	17,419	138,140	200,233
Manitoba—						
Winnipeg.....	501	125,321,028	19,150	25,216,832	55,116,644	109,320,713
St. Boniface.....	36	10,357,696	1,685	2,114,032	18,000,728	24,933,833
Transcona.....	3	6,896,589	2,123	3,202,371	3,783,535	7,301,063
Brandon.....	38	4,583,802	533	671,222	2,506,168	4,288,063
Portage la Prairie.....	13	784,513	232	258,735	1,999,378	2,853,063

34.—Statistics of Manufactures of Municipalities with a Gross Production of \$200,000 or over, and with Three or more Establishments, 1929—concluded.

City or Town.	Estab-lish-ments.	Capital.	Em-ployees.	Salaries and Wages.	Cost of Materials.	Gross Value of Products.
	No.	\$	No.	\$	\$	\$
Manitoba—concluded.						
Selkirk.....	9	2,117,238	451	506,276	461,138	1,877,134
The Pas.....	7	1,241,136	323	434,865	504,120	1,584,446
Dauphin.....	13	494,598	88	82,771	351,181	588,038
Neepawa.....	4	216,470	37	41,216	224,108	327,308
Shoal Lake.....	4	83,085	19	17,527	197,999	250,972
Rapid City.....	4	30,091	9	12,141	200,002	240,204
Saskatchewan—						
Regina.....	75	27,824,792	3,134	4,632,788	22,077,914	34,842,487
Saskatoon.....	63	10,443,592	1,491	2,161,869	9,654,746	15,961,102
Moose Jaw.....	27	7,791,932	927	1,336,857	10,648,850	14,646,351
Prince Albert.....	18	2,533,389	428	504,037	2,418,750	3,951,349
North Battleford.....	12	727,053	122	177,259	473,424	917,639
Swift Current.....	13	843,849	82	113,814	275,871	640,683
Estevan.....	9	925,709	123	138,487	255,962	556,549
Yorkton.....	10	431,633	52	61,713	289,043	479,902
Melville.....	5	140,355	25	27,563	337,231	448,508
Weyburn.....	12	535,378	65	77,945	184,011	397,256
Melfort.....	6	123,823	17	23,643	129,975	207,627
Alberta—						
Calgary.....	149	35,680,545	4,378	5,952,651	26,080,174	44,694,670
Edmonton.....	134	25,702,207	4,761	5,983,615	17,968,863	30,388,021
Medicine Hat.....	19	7,459,474	746	907,928	7,389,186	10,335,125
Lethbridge.....	25	3,181,884	445	564,362	1,681,438	4,206,859
Redcliff.....	6	1,989,590	290	352,999	308,946	1,036,603
Raymond.....	3	2,430,251	77	132,375	609,538	967,388
Drumheller.....	6	1,984,005	76	130,683	31,382	409,683
Wetaskiwin.....	8	218,440	24	32,276	281,271	371,378
Red Deer.....	8	175,881	38	52,405	204,018	350,267
Camrose.....	9	201,979	36	48,220	191,456	340,056
Didsbury.....	6	167,142	36	40,450	231,153	329,010
Blairmore.....	8	402,326	66	79,307	141,231	282,014
Vegreville.....	7	99,672	20	26,765	148,278	241,818
Ponoka.....	6	64,372	13	16,104	172,719	233,792
Athabaska.....	6	170,103	59	46,535	101,856	202,577
British Columbia—						
Vancouver.....	639	129,078,372	16,663	21,882,312	50,933,163	99,646,413
New Westminster.....	59	14,540,655	2,575	3,093,334	10,117,810	16,531,325
Victoria.....	140	21,189,997	3,331	4,284,297	5,530,236	14,416,792
North Vancouver.....	18	6,374,540	879	1,256,593	1,942,892	4,032,703
Prince Rupert.....	20	4,734,271	403	736,786	2,126,118	3,126,046
Rossland.....	6	12,108,387	325	492,890	20,975	2,305,452
Port Alberni.....	7	1,592,570	382	471,695	1,040,983	2,286,852
Port Moody.....	5	1,811,128	346	423,620	1,067,348	1,920,888
Duncan.....	11	768,701	476	525,851	792,877	1,741,607
Nanaimo.....	27	1,559,603	545	479,983	697,758	1,518,552
Fernie.....	8	6,209,694	175	268,404	510,926	1,449,765
Kelowna.....	22	950,619	444	286,953	712,531	1,404,368
Nelson.....	23	1,660,074	261	348,023	352,966	1,068,495
Port Coquitlam.....	4	695,308	191	248,037	458,346	1,013,472
Vernon.....	16	2,080,760	207	175,735	367,779	755,169
Kamloops.....	15	943,550	186	195,961	273,718	684,573
Merritt.....	8	361,932	99	142,583	252,563	512,507
Cranbrook.....	12	413,985	94	127,867	183,946	489,407
Courtenay.....	8	250,763	65	73,585	150,112	282,404
Chilliwack.....	8	179,807	94	91,739	95,588	255,465

CHAPTER XV.—CONSTRUCTION.

Construction is the most conspicuous example of a great industry carried on in almost complete dependence on a local demand. The building industry is not only the most widespread in its operation, it is one which expands most rapidly in good times when it attracts great numbers of general and casual workmen—a characteristic which explains the high rate of unemployment from which the industry periodically suffers. Again, apart from the effect of cyclical fluctuations of general business conditions, the construction industry is decidedly seasonal, although new types of construction and mechanical improvements are making it possible to work more steadily on all branches of construction the year round. Conditions in the industry are being transformed on account of the increasing substitution of reinforced concrete for wood and brick construction. Nevertheless in the winter there is a serious contraction, especially in outside operations, while in the other seasons the contractors employ a much larger number of men, casually engaged, than can be retained throughout the year. A considerable number of the men are in no sense skilled artisans and the supply of unskilled men is generally in excess of the demand.

Relation of Construction Industry to General Business Conditions.—Statistics showing activity in construction are of particular interest both to those engaged in the industry itself and to those concerned with the supplying of its raw materials, such as lumber, steel, cement, paint, glass and hardware. All of these latter industries are prosperous when the construction industry is active, and depressed when it is at a standstill; again, the effects of their activity and depression are felt throughout the whole field of industry, so that the current conditions in the construction industry react powerfully upon the whole economic life of the nation. Thus, in the period between 1909 and 1913, construction, mainly financed with borrowed money, contributed in large measure to produce the "boom" of those years.

During the war period the industry was at a low ebb, except for the construction of munition plants, but after the war the housing shortage was a serious problem, and considerable building was undertaken in spite of the high cost of materials and skilled labour, as shown in Table 4. The urgent requirements due to the practical suspension of the industry during the war were fully met in the post-war years, but the peak of the prosperity cycle in 1929 is reflected in the highest value of construction contracts on record, aggregating \$576,651,800, exceeding 1928 by no less than \$104,619,200 and the former peak year, 1912, by \$113,568,800. In 1931, the total value of construction contracts awarded declined to \$315,482,000, which was \$141,517,600 or 30·9 p.c. less than in 1930. (See Table 2.)

Construction in Transportation and Public Utility Industries.—The expenditure for construction by the transportation and public utility systems is incorporated in their general maintenance and structural accounts. The maintenance of way and structures account of the steam railways in 1930 totalled \$78,035,587 as compared with \$94,021,972 in 1929, while investments in the road bed and equipment of new lines in 1930 totalled \$24,965,375 and in additions and betterments on old lines, \$77,056,393. There were 713 miles of new lines opened

for operation during 1930, 357.7 miles completed but not opened for traffic and 872.5 miles under construction. Total track mileage in 1930 was 56,642 as compared with 55,868 in 1929, a net increase of 774 miles. The expenditure of electric railways on maintenance of way and structures account decreased from \$4,560,916 in 1929 to \$3,977,114 in 1930. There was a net increase of \$183,318 during 1930 in the capital investment of electric railways.

As for the telephone systems of Canada, the pole line mileage increased from 220,525 in 1929 to 222,113 in 1930, and the wire mileage from 4,486,213 to 4,880,224 in the same period. The property and equipment account was \$291,589,148 in 1929 and \$319,101,191 in 1930.

The pole line mileage of the telegraph systems decreased from 52,835 in 1929 to 52,824 in 1930, while the wire mileage increased from 360,883 to 371,747. The telegraph and cable companies reported new construction valued at \$2,395,879 and alterations and repair work costing \$1,782,117, or a total expenditure for construction of \$4,177,996 for the year.

Contracts Awarded.—A record of contracts awarded during the years 1911-31, as compiled by MacLean Building Reports, Ltd., is given in Table 1. The aggregate for 1931 is 45 p.c. less than for the record year 1929, and much less than the previous maxima established in 1928 and 1912; it is the lowest figure since 1925. Immigration was exceptionally great in 1912 and an extensive building program was necessary to care for the rapidly growing population, while railway construction was also very active. In 1928 the increase was largely accounted for by residential building and industrial contracts were considerably ahead of 1927. Although residential construction declined in 1929, the tremendous increase in engineering construction and the significant advances in building for business purposes combined to make the record total. While construction operations of all types declined in 1930 when compared with 1929, the declines were most pronounced in the industrial, residential and business types, whereas engineering construction continued very active and was nearly double that of any year prior to 1929. It will be observed from Table 2 that construction for business and industrial purposes show the greatest declines for 1931, although engineering construction declined by 24 p.c. and residential by over 13 p.c.

1.—Summary of the Value of Construction Contracts Awarded in Canada, 1911-31, as Compiled by MacLean Building Reports, Ltd.

Year.	Value of Construction Contracts.	Year.	Value of Construction Contracts.
	\$		\$
1911.....	345,425,000	1922.....	331,843,800
1912.....	463,083,000	1923.....	314,254,300
1913.....	384,157,000	1924.....	276,261,100
1914.....	241,952,000	1925.....	297,973,000
1915.....	83,916,000	1926.....	372,947,900
1916.....	99,311,000	1927.....	418,951,600
1917.....	84,841,000	1928.....	472,032,600
1918.....	99,842,000	1929.....	576,651,800
1919.....	190,028,000	1930.....	456,999,600
1920.....	255,605,000	1931.....	315,482,000
1921.....	240,133,300		

2.—Construction Contracts Awarded in Canada, 1926-31, by Provinces and Types of Construction, as Compiled by MacLean Building Reports, Ltd.

Distribution.	1926.	1927.	1928.	1929.	1930.	1931.
PROVINCE.	\$	\$	\$	\$	\$	\$
Prince Edward Island	374,500	421,100	559,000	627,300	1,120,500	186,800
Nova Scotia	3,444,800	5,469,300	27,784,000	12,744,500	7,238,500	6,923,800
New Brunswick	4,593,000	3,597,200	7,825,000	6,806,500	11,067,600	9,756,800
Quebec	151,933,900	133,182,600	144,185,000	187,771,600	154,672,000	106,125,700
Ontario	141,929,400	196,159,000	188,351,700	215,773,100	175,459,600	125,452,300
Manitoba	19,186,600	29,939,900	23,995,800	38,156,500	22,010,900	13,797,800
Saskatchewan	14,551,500	11,337,600	22,127,100	34,184,300	27,361,300	9,209,000
Alberta	10,058,100	7,507,300	17,909,700	29,159,600	25,081,700	14,334,700
British Columbia	27,175,800	31,337,600	39,295,800	51,428,400	32,987,500	29,704,100
Totals	372,947,900	418,951,600	472,032,600	576,651,800	456,999,600	315,482,000
TYPE OF CONSTRUCTION.						
Apartments	20,979,300	25,981,800	36,720,500	22,527,200	15,330,300	16,202,200
Residences	88,583,100	98,957,800	102,445,800	106,374,100	77,961,200	65,482,100
Totals, Residential	109,562,400	124,939,600	139,166,300	128,901,300	93,291,500	81,684,300
Churches	9,942,600	12,052,700	8,327,500	8,867,800	7,265,600	7,744,600
Public garages	4,820,500	7,354,700	10,889,100	12,915,100	7,049,700	3,420,000
Hospitals	6,460,100	8,897,200	9,596,300	8,983,700	14,636,200	12,142,500
Hotels and clubs	19,979,400	30,598,700	15,486,400	20,110,500	13,806,700	2,881,100
Office buildings	11,957,600	40,752,900	34,120,900	37,465,100	26,529,600	3,575,200
Public buildings	4,546,400	8,195,200	8,744,700	19,062,600	16,804,600	16,803,200
Schools	17,110,700	22,244,000	20,907,400	22,482,800	35,079,800	17,852,700
Stores	12,640,200	11,831,900	27,448,000	27,353,900	10,006,100	9,035,900
Theatres	2,432,700	1,519,500	3,085,000	3,074,800	2,356,100	1,308,900
Warehouses	22,518,700	19,982,000	31,621,300	29,835,400	17,569,300	6,410,200
Totals, Business	112,408,900	163,428,800	170,226,600	190,161,700	151,103,700	81,174,300
Totals, Industrial	79,659,700	39,988,900	63,300,000	62,968,800	31,520,000	14,816,060
Bridges	6,681,700	23,468,900	7,360,200	11,218,500	11,333,700	16,064,600
Dams and wharves	7,374,500	6,565,300	8,297,900	24,721,300	10,281,600	3,943,300
Sewers and water-mains	7,889,300	9,624,700	10,455,800	17,552,200	28,680,800	25,620,400
Roads and streets	24,379,900	24,382,800	29,412,500	41,690,800	40,490,200	41,035,800
General engineering	24,961,500	26,552,600	43,812,400	99,437,200	90,298,100	51,143,300
Totals, Engineering	71,286,900	90,594,300	99,338,800	194,620,000	181,084,400	137,807,400

Building Permits.—The estimated value of construction in 61 cities of Canada, as indicated by their building permits, is shown for the years 1926 to 1931 inclusive in Table 3. These cities had in 1921 about 32.6 p.c. of the population of Canada, while their 1930 building permits aggregated \$112,222,845 or 35.6 p.c. of the total contracts awarded, as shown in Table 1. In Table 3 the 35 cities for which statistics of building permits are available since 1910 are indicated by an asterisk (*), and the totals for these cities are given beneath the totals for the larger group.

Table 4 shows the value of the building permits issued by 35 cities in the years 1910-1931. The average weighted index numbers of wholesale prices of building materials since 1913 are also given, as are the average indexes of wages in the building trades since 1910, the latter being compiled by the Department of Labour, and the former by the Dominion Bureau of Statistics. These indexes are introduced to show as far as possible the fluctuations in building costs with their effect upon construction work. Attempts have been made to determine the relative proportion of material and wage costs in general building, but representative data could not be obtained.

Owing to the increasing use of the automobile and other means of rapid transportation, a growing percentage of those who work in the cities reside outside the municipal boundaries. Hence arises, in part, the necessity for an extension of the record of building permits to include such suburban areas as the York Townships in the case of Toronto, and North and South Vancouver. South Vancouver and Point Grey were annexed to Vancouver city as from Jan. 1, 1929.

The construction contracts in 1931 as shown in Table 2 decreased by 30 p.c., compared with 1930 and the building permits of 61 cities in Table 3 also decreased by about 30 p.c.

3.—Value of Building Permits Taken Out in 61 Cities for the calendar years 1926-31.

NOTE.—Asterisks indicate the 35 original cities, statistics for which are available since 1910.

Province and City.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$
P.E.I., Charlottetown.....	29,000	1	1	20,000	158,000	1
Nova Scotia.....	908,945	1,810,647	3,078,176	5,748,282	3,561,302	3,174,980
*Halifax.....	764,498	1,537,899	2,808,357	5,209,245	3,188,345	2,964,985
New Glasgow.....	7,870	10,850	64,515	305,370	141,250	107,165
*Sydney.....	136,577	291,898	205,304	233,667	234,707	102,830
New Brunswick.....	771,421	1,365,065	1,262,266	2,037,931	3,031,614	1,783,462
Fredericton.....	37,050	14,779	148,015	23,500	482,000	140,295
*Moncton.....	342,701	736,110	270,813	768,698	456,827	385,850
*Saint John.....	391,670	614,176	843,438	1,245,736	2,095,787	1,257,317
Quebec.....	42,167,440	58,320,532	49,933,504	57,984,175	46,224,208	37,605,584
*Montreal-Maisonneuve...	31,720,049	45,200,842	36,347,901	46,065,924	37,504,590	31,876,676
*Quebec.....	3,939,281	6,360,165	5,710,144	5,684,183	4,912,257	4,049,875
Shawinigan Falls.....	315,760	347,835	1,163,581	770,618	468,540	55,065
*Sherbrooke.....	712,350	689,930	1,128,233	755,240	812,150	676,350
*Three Rivers.....	1,445,575	2,332,500	1,681,450	1,488,065	851,730	242,030
*Westmount.....	4,034,425	3,389,260	3,902,195	3,220,145	1,674,941	705,588
Ontario.....	65,373,757	79,883,344	104,777,566	95,055,827	69,042,946	44,371,572
Bellefleur.....	306,610	670,010	239,323	533,730	312,360	221,900
*Brantford.....	232,049	571,599	802,528	473,387	1,034,957	506,677
Chatham.....	591,650	575,087	780,020	813,560	821,258	201,365
*Fort William.....	1,291,250	1,209,450	2,062,000	1,759,000	1,227,300	451,000
Galt.....	181,185	181,023	378,581	527,315	264,901	239,022
*Guelph.....	344,616	493,169	462,815	607,377	371,351	221,082
*Hamilton.....	3,128,950	3,837,150	6,342,100	7,008,320	6,291,100	5,026,050
*Kingston.....	608,532	420,467	678,203	908,900	1,056,986	548,199
*Kitchener.....	1,100,111	1,272,632	1,524,625	1,645,351	1,344,232	627,853
*London.....	3,621,200	2,814,950	2,561,705	2,408,900	2,744,735	1,746,900
Niagara Falls.....	1,504,000	1,517,510	2,056,415	905,510	483,678	158,018
Oshawa.....	1,044,100	5,255,188	3,015,070	1,478,090	195,470	146,375
*Ottawa.....	3,101,748	6,446,045	5,421,085	3,403,333	6,295,275	3,154,000
Owen Sound.....	154,450	330,350	262,375	529,850	132,000	81,975
*Peterborough.....	342,757	624,295	625,577	618,278	797,895	278,526
*Port Arthur.....	961,580	3,473,736	5,292,545	555,945	995,487	341,975
*Stratford.....	480,915	221,254	224,412	354,849	414,410	164,535
*St. Catharines.....	940,642	1,147,286	1,249,141	1,432,392	610,067	563,626
*St. Thomas.....	138,597	92,682	362,732	172,190	180,327	139,640
Sarnia.....	601,646	1,064,415	814,586	1,021,962	633,899	171,818
Sault Ste. Marie.....	235,766	329,461	402,419	782,059	589,773	436,147
*Toronto.....	26,029,584	31,274,876	51,607,188	47,698,654	32,130,589	22,002,099
York Townships.....	5,558,540	6,041,635	8,210,380	9,824,273	6,240,998	5,948,037
Welland.....	404,049	400,364	309,866	301,500	196,125	209,726
*Windsor.....	7,319,454	4,930,832	4,518,723	5,571,849	2,250,130	436,507
East Windsor.....	1,592,058	1,054,531	758,315	561,382	424,233	22,136
Riverside.....	455,630	624,340	496,460	383,225	153,920	29,165
Sandwich.....	1,767,550	1,323,140	762,775	856,190	183,775	21,130
Walkerville.....	1,268,000	1,527,000	2,108,000	1,631,000	472,000	130,000
Woodstock.....	126,538	158,867	447,602	287,456	193,715	146,095

¹No information received.

3.—Value of Building Permits Taken Out in 61 Cities for the calendar years 1926-31 —concluded

NOTE.—Asterisks indicate the 35 original cities, statistics for which are available since 1910.

Province and City.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Manitoba	11,091,372	8,561,122	11,846,635	12,007,695	7,631,620	4,953,908
*Brandon.....	227,516	230,252	428,130	404,342	197,245	286,613
*St. Boniface.....	501,256	761,570	871,105	553,103	780,625	270,695
*Winnipeg.....	10,362,600	7,569,300	10,547,400	11,050,250	6,653,750	4,396,600
Saskatchewan	6,529,041	7,928,574	13,449,826	16,950,228	9,544,287	3,790,002
*Moose Jaw.....	268,326	1,230,489	1,074,078	1,025,474	1,058,303	473,047
*Regina.....	4,242,511	3,482,090	6,619,206	10,022,631	2,971,544	1,598,440
*Saskatoon.....	2,018,204	3,215,995	5,756,542	5,902,123	5,514,440	1,718,515
Alberta	4,115,317	5,398,691	10,292,579	17,953,321	9,460,834	4,730,465
*Calgary.....	1,999,048	2,330,131	6,302,142	11,417,144	4,054,364	1,944,039
*Edmonton.....	1,853,735	2,568,565	3,374,971	5,670,185	4,300,935	1,377,175
Lethbridge.....	236,359	438,684	498,590	559,392	984,830	1,294,056
Medicine Hat.....	26,175	61,811	116,876	306,600	120,705	115,195
British Columbia	25,400,314	21,315,767	24,465,163	27,187,087	17,718,514	11,812,866
Kamloops.....	187,269	252,488	128,761	241,247	205,235	133,642
Nanaimo.....	77,496	211,065	45,269	112,640	117,053	45,350
*New Westminster.....	748,169	1,082,114	1,928,324	1,011,629	553,990	580,321
Prince Rupert.....	187,465	252,940	176,804	93,648	148,695	156,493
*Vancouver ¹	22,937,602	16,669,680	19,445,288	21,572,727	14,645,206	10,066,425
North Vancouver.....	564,074	322,739	912,780	292,515	150,073	94,025
*Victoria.....	698,239	2,524,741	1,827,937	3,862,681	1,898,262	736,610
Totals—61 Cities	156,386,607	184,613,742	219,105,715	234,944,549	166,379,325	112,222,845
*Totals—35 Cities	131,048,721	154,904,047	187,269,237	211,228,814	151,324,214	101,647,955

¹South Vancouver and Point Grey were annexed to Vancouver city as from Jan. 1, 1929. Their permits in earlier years have been included in the respective Vancouver totals.

4.—Value of Building Permits Issued by 35 Cities in the calendar years 1910-31.

Year.	Value.	Average Index Numbers of—	
		Wholesale Prices of Building Materials.	Wages in the Building Trades.
	\$	(1913=100.)	
1910.....	100,357,546	—	86.9
1911.....	138,170,390	—	90.2
1912.....	185,233,449	—	96.0
1913.....	153,662,842	100.0	100.0
1914.....	96,780,981	93.8	100.8
1915.....	33,566,749	90.3	101.5
1916.....	39,724,466	103.8	102.4
1917.....	33,936,426	130.7	109.9
1918.....	36,838,270	150.5	125.9
1919.....	77,113,413	175.0	148.2
1920.....	100,679,839	214.9	180.9
1921.....	94,508,164	183.2	170.5
1922.....	122,655,581	162.2	162.5
1923.....	111,174,325	167.0	166.4
1924.....	105,070,284	159.1	169.1
1925.....	101,021,798	153.5	170.4
1926.....	131,048,721	149.2	172.1
1927.....	154,904,047	143.4	179.3
1928.....	187,269,237	145.3	185.6
1929.....	211,228,814	147.7	197.5
1930.....	151,324,214	135.5	203.2
1931.....	101,647,955	122.0 ¹	195.7

¹Preliminary figure.

CHAPTER XVI.—EXTERNAL TRADE.

This chapter commences with a historical sketch of Canadian external trade, the Canadian tariff, and recent developments in external trade, followed by a brief account of the Commercial Intelligence Service. Thereafter is to be found a treatment of statistics of external trade under ten subordinate headings:—historical statistics of Canadian trade; general analysis of current import and export trade; trade with the United Kingdom and the British Empire; trade with the United States and other foreign countries; geographical distribution of Canadian trade by continents and countries; principal commodities imported and exported; trade in raw and manufactured products; Canada's position in international trade; main historical tables and tables showing current trends (Tables 1 to 21); and comparison of the volumes of imports and exports (Table 22). The chapter is finally brought to a close with sections on the tourist trade of Canada, and on Canada's balance of international payments in recent years.

Section 1.—The Development of Tariffs.

An outline of the development of tariffs as affecting Canada naturally falls in two divisions: first, a historical sketch showing the various phases of Canadian trade which have influenced tariff development; and second, the present tariff conditions under which Canadian trade is carried on.

Subsection 1.—Historical Sketch of External Trade and Tariffs.

In the early history of the American continent each of the European nations establishing settlements in the New World endeavoured to monopolize the commerce of its colonies, prohibited the ships of other nations from resorting to them and prohibited its colonials from importing European goods from other countries, generally granting them, however, preferential treatment in its own market. In these circumstances the colonial wars in America were carried on by Governments permeated by the mercantile spirit, for "ships, colonies and commerce". Owing to this fact, wars resulting in the transfer of colonies from one European power to another involved great economic as well as political changes in the community so transferred. The traders who had previously controlled the trade between the mother country and its colony found their occupations gone, while new traders from the conquering state arrived to take over the import and export trade, which thereafter flowed in new channels, perhaps no more artificial than those which had previously existed.

Throughout the earlier part of the French *régime* in Canada, the foreign trade of the colony was in the hands of the monopolistic chartered companies, of which the Company of One Hundred Associates was the most notable. When its monopoly was cancelled in 1663, the external trade of Canada still remained a preserve of the merchants of Old France. Upon the conquest of the country by the British, the French merchants, who had their offices in Quebec and Montreal for the most part, returned to France, and the trade of the colony fell into the hands of the traders from England, Scotland and New England, who had swarmed into the country at the heels of the invading armies. Some of their descendants are still among the leaders in Canadian import and export trade.

For the first sixty years of British rule, Canadian commerce was carried on almost exclusively with or through the United Kingdom, the merchants of New England complaining, after the American Revolution, of being shut out from the Canadian trade. The geographical juxtaposition of the United States to British North America was, however, a factor which could not permanently be ignored, and smuggling became more and more prevalent as settlement extended westward along the International Boundary. In 1822 Great Britain made considerable concessions to United States traders in respect of the Canadian trade. In 1846 she abolished the preferential treatment which she had given to Canadian wheat, and in 1860 all vestige of preference to colonial products disappeared from the British tariff. As a consequence, the colonies which, like Canada, were by this time enjoying responsible government, could not any longer be refused the right to control their own commercial policy—a fact which was emphasized in an important report prepared in 1859 by the then Minister of Finance, (Sir) A. T. Galt, and forwarded to the British Government. This report declared that the responsibility of the Canadian Government must be to the Canadian people, more especially in matters of taxation (the greater part of the revenue being raised by customs duties), and that the Canadian Government must affirm the right of the Canadian Parliament to adjust the taxation of the people in the way it deemed best, even if this should happen to meet with the disapproval of the British Ministry. This doctrine remained unchallenged by the British Government and, coming at a time when all important parties in Great Britain had accepted free trade as a *fait accompli*, it facilitated the setting up in Canada of a protective tariff, designed to secure the establishment in Canada of manufacturing industries, at a time when British opinion desired that the colonies should concentrate their attention on the production of food and raw materials and import from Great Britain the manufactured commodities which they required.

The Abolition of Preference and the Reciprocity Treaty of 1854.—The abolition of the British preference on Canadian wheat in 1846 brought about a depression in the flour-milling industry of Montreal and an ephemeral agitation for union with the United States. The effects of the repeal of the preference were, however, mitigated in 1849 by the repeal of the Navigation Acts and the consequent throwing open of the carrying trade between Canada and the United Kingdom to the shipping of the world. Meanwhile, the abandonment of protection in the Mother Country led to the initiation of negotiations for a reciprocity treaty with the United States. A treaty for the free exchange of natural products between them and the British North American colonies was negotiated in 1854, and became effective on Mar. 16, 1855. From its operation the Canadian farmer and fisherman derived considerable benefit, more especially during the period of the Civil War, when prices in the United States were particularly high. Partly as a consequence of the friction between Great Britain and the United States during the Civil War period and partly because the new Canadian tariff of 1859 shut out the manufactured goods of the United States, the treaty was denounced by the United States at the end of the ten-year period for which it had been negotiated and ceased to operate 12 months later on Mar. 17, 1866. The denunciation of the treaty had a considerable effect in bringing about the confederation of the British North American colonies, which it was hoped would to a great extent absorb each other's products.

Tariff Policy since Confederation.—The immediate effect of Confederation was to abolish the tariff barriers which existed between the provinces entering the Dominion. As the area of Canada increased until, except for Newfoundland and

Labrador, it became conterminous with British North America, the area of internal free trade was thereby extended, while protection against outside competition was generally maintained. However, the protective tariff of the old province of Canada, adopted in 1859 with a prevailing rate of 20 p.c., was replaced in 1866 by a tariff assimilated to the revenue tariffs of the Maritime Provinces, with the rates of duties on the great bulk of manufactured commodities reduced from 20 and 25 p.c. to 15 p.c. Later on, the world-wide depression which commenced in 1873, and the consequent falling off in a revenue based upon trade, necessitated an increase of the general rate to 17½ p.c., with a 20 p.c. rate on certain luxuries. Even this increase failed to fill the treasury.

In 1879, after the people had declared for a protective policy in the general election of 1878, the duties on imported manufactured goods were considerably increased, the rate on goods "not otherwise provided" being raised from 17½ p.c. to 20 p.c., the rates on cotton goods from 17½ p.c. to rates, specific and *ad valorem*, equivalent, on the importations of 1881, to 30 p.c., while the duties on woollens were practically doubled. The rate on furniture and clocks was increased to 35 p.c.; on carriages, glassware, wall-paper and silks, to 30 p.c.; on boots and shoes, buttons, rubber goods and woodenware, to 25 p.c. Pig iron, previously free, now paid \$2 a ton, and the duty on iron billets, bars and rods was increased from 5 p.c. to 10 and 17½ p.c., while manufactured iron and steel products and machinery were given 25 to 35 p.c. protection. Throughout the '80's the general trend of the minor revisions made in the tariff was still upwards but in the '90's a downward tendency became manifest. In 1891 the duty on raw sugar was repealed, and in 1894 material reductions were made on agricultural implements, and minor readjustments on cottons and woollens. This period was also marked by the thorough-going extension of protection to the iron and steel industry, both by customs duties and bounties.

In the tariff revision of 1897, the duties on Indian corn, binder-twine, barbed wire, pig iron, flour and refined sugar were reduced or abolished, while the bounties on domestic pig iron were not reduced but in certain cases increased. But the most distinctive feature of the tariff revision of 1897 was the adoption of what was called a "reciprocal" tariff, one-eighth lower than the general. This "reciprocal" tariff was at once applied to the United Kingdom, and afterwards to New South Wales and to British India, while Belgium and Germany, in virtue of their trade treaties with Great Britain, were also admitted to the benefits of the "reciprocal" tariff, together with Argentina, Austria-Hungary, Bolivia, Colombia, Denmark, Persia, Russia, Sweden, Switzerland, Tunis and Venezuela, on account of most-favoured-nation treaties between these countries and Great Britain, also France and her colonies, in consequence of the Franco-Canadian treaty of 1893. A little later the "reciprocal" tariff was also extended to the Netherlands, Japan, Siberia, Morocco, Salvador, South African Republic, Tonga and Spain, under most-favoured-nation treaties between these countries and the United Kingdom.

The numerous concessions mentioned above were, however, of a merely temporary character, ceasing to exist in 1898 as a consequence of the denunciation by Great Britain of her most-favoured-nation treaties with Germany and Belgium. This left Canada free to confine her lower tariff rates to the United Kingdom and to sister Dominions and colonies. A British preferential tariff, consisting at first of a remission of 25 p.c. of the duty ordinarily paid (Aug. 1, 1898), and later of a remission of 33½ p.c. of the ordinary rate of duty (July 1, 1900), was established. This method of preference was abandoned in 1904 for a specially low rate of duty on almost all imported dutiable commodities.

Subsection 2.—Present Tariffs.

Tariff of 1907 and Empire Preferences.—A new Canadian Customs Tariff was adopted on April 12, 1907, containing three columns of duties, British preferential, intermediate and general. This tariff with amendments is still in operation. The Tariff Act itself mentions as being entitled to the British preference those parts of the Empire which were already enjoying it under previous measures, namely: United Kingdom, British India, Ceylon, New Zealand, Union of South Africa, Southern Rhodesia, Bermuda, British West Indies, British Guiana and Straits Settlements. Power was taken to extend the same advantages, by Order in Council, to other parts of the Empire. Under this authority the British preference was, on Jan. 25, 1913, granted to: Swaziland, Basutoland, Bechuanaland Protectorate, Northern Rhodesia, Nyasaland Protectorate, Uganda Protectorate, East Africa Protectorate, Protectorate of Northern Nigeria, Colony and Protectorate of Southern Nigeria, Gold Coast, Sierra Leone, Gambia, Somaliland Protectorate, Federated Malay States, British North Borneo, Sarawak, Brunei, Mauritius and Dependencies thereof, Seychelles, St. Helena, Ascension, Friendly or Tonga Islands, Fiji, Falkland Islands and British Honduras. Further extensions were to: Irish Free State, Sept. 21, 1923; Territory of Western Samoa, Oct. 1, 1924; Newfoundland, June 26, 1928; Tanganyika Territory, Dec. 19, 1930; Channel Islands, Isle of Man, Kenya Colony and Protectorate, Colony and Protectorate of Nigeria, British Sphere of the Cameroons, British Sphere of Togoland, part of New Guinea under mandate of Australia, and Cyprus, all on Sept. 24, 1931.

Trade Agreements with Australia.—Australia remained almost the only part of the Empire not accorded the British preferential tariff, either by Statute or Order in Council. However, a formal trade agreement between Canada and Australia (superseding an arrangement of 1925, exchanging limited preferences by legislation) was brought into force on Aug. 3, 1931, providing for exchange of British preferential rates except as set forth in two schedules, one of which concedes special Canadian rates on some Australian products, while the other specifies the tariff treatment given by Australia to Canada on certain items, as well as enumerating items which Australia reserves as regards granting preferential treatment. Canada is accorded the British preferential tariff of Australia on 415 of the 433 items comprising the entire tariff. On six items the intermediate tariff applies and on the other twelve, the general tariff. An important concession to Canada is the creation of some new or larger margins of preference than existed in the former tariff. In this way the margin of preference on canned salmon is increased from 3 cents to 6 cents per pound. On most classes of lumber preferences of 2s. per 100 bd. ft. are established.

Trade Agreements with British West Indies.—To the British West Indies concessions independent of the British preference were made in an agreement of 1912, which obtained West Indian preferential rates of four-fifths of the general tariff on some Canadian goods. In 1920 a second trade agreement, broader both as to the extent of the preferences exchanged and the number of West Indian signatories, superseded the first. This in turn was replaced on July 6, 1925, by one still more extensive, brought formally into force by proclamation as from April 30, 1927. It is binding for a 12-year period and thereafter until terminated on 1 year's notice. It includes: Jamaica, Trinidad, Barbados, Bahamas, Leeward Islands, Windward Islands, Bermuda, British Guiana and British Honduras. The larger colonies give a preference of 2s. per brl. on flour, and various stated amounts on some other commodities of importance. The preference on manufactured goods

in general, when not specially dealt with, ranges from 20 p.c. to 50 p.c. of the general tariff. In return Canada grants the colonies: (a) specific amounts of preference on sugar and some other selected tropical products; (b) a 50 p.c. reduction from the general tariff on goods for which no special provision is made.

Extension of Preferences by Great Britain.—Great Britain, which in 1919 granted preferences to Empire products within the limited scope of her tariff of that time, made important additions to her list of dutiable goods in 1931 and 1932 and carried further the policy of Empire preferences. There were already preferences on: motor cars, clocks and watches, musical instruments, cinematograph films, all known as "McKenna duties"; sugar, goods containing sugar, glucose, tobaccos, certain dried fruits, chicory, cocoa, coffee, hops, spirits, wines, silk and artificial silk goods; pottery, buttons, household hollow-ware (safeguarding duties); and on "key industry goods" mainly certain chemicals, optical instruments, arc lamp carbons, vacuum tubes, metallic tungsten, some scientific instruments and scientific glassware. In consequence of the Abnormal Importations (Customs Duties) Act, passed Nov. 20, 1931, to remain in effect for six months, giving authority for Orders in Council imposing duties, not to exceed 100 p.c. *ad valorem*, on foreign manufactured goods, some 50 items were subjected to 50 p.c. *ad valorem*. The Horticultural Products (Emergency Customs Duties) Act, passed Dec. 11, 1931, to remain in force for twelve months, gave the Government power to impose duties by Orders in Council up to 100 p.c. *ad valorem* on certain fresh fruit, fresh vegetables and flowers of non-Empire origin. Two Orders were passed under this Act. An Import Duties Act effective Mar. 1, 1932, imposed a duty of 10 p.c. *ad valorem* on goods (some exceptions) which were not otherwise subject to duty. Products of the Dominions, India and Southern Rhodesia are exempt from this duty until Nov. 15, 1932, their treatment after that date to depend on the Imperial Conference to be held in Ottawa beginning July 21, 1932. Products of other parts of the British Empire are exempt from the 10 p.c. duty without limitation as to date. There was provision in the Act for increasing the 10 p.c. duty in the case of goods considered to be non-essential imports and by Order effective April 26, 1932 certain duties were increased to from 15 to 33½ p.c. *ad valorem*. This latter Order superseded the Abnormal Importations Act of November, 1931. Among the goods exempted from the 10 p.c. duty are: wheat, meats (not including canned), live animals, wool, hides and skins, newsprint, wood pulp and wooden pit props.

Other Empire Preferences on Canadian Goods.—Aside from the tariff advantages granted to Canadian goods in the aforementioned British areas, Southern Rhodesia, Zambesi Basin of Northern Rhodesia, Cyprus, Fiji and Western Samoa accord preferences to practically all Canadian goods. The Irish Free State, Union of South Africa, Southwest Africa, Walfish Bay, Basutoland, Bechuanaland Protectorate, Swaziland, British Borneo, Mauritius and Gibraltar (spirituous goods only) accord preferences on limited lists of goods varying much in the different countries. New Zealand extends to Canada rates between her British preferential and general tariffs on motor cars, engines and rubber tires for cars, and the full British preferential tariff on certain classes of rubber boots, some paper including newsprint, and specified varieties of wire. With these exceptions general tariff rates have been applied to Canadian goods since June 1, 1931. At a conference at Honolulu in January, 1932, the Canadian Minister of Trade and Commerce and the New Zealand Minister of Finance and Customs drew up a comprehensive draft trade agreement which went before the respective Governments for approval. The text of the new trade treaty was published on April 27, 1932.

Canadian Tariff Arrangements with Foreign Countries.—Arising out of some old British treaties, later British treaties or favoured nation clauses sanctioned by Canadian Acts of Parliament, or in consequence of purely Canadian conventions of commerce, Canada extends on a reciprocal basis most-favoured-nation customs treatment to the goods of the appended list of countries.

Country.	Treaty or Convention.	Date.
Argentine Republic.....	Treaty of Amity, Commerce and Navigation with Great Britain.....	Feb. 2, 1825.
Brazil.....	Exchange of Notes granting Canadian Intermediate Tariff for most-favoured-nation treatment in Brazil.	Dec. 4, 1931.
Economic Union of Belgium and Luxembourg, Belgian colonies, possessions and mandated territory.....	Convention of Commerce with Canada.....	July 3, 1924.
Colombia.....	Treaty of Friendship, Commerce and Navigation with Great Britain.....	Feb. 16, 1866.
Czechoslovakia.....	Convention of Commerce with Canada.....	Mar. 15, 1928.
Denmark.....	Treaties of Peace and Commerce with Great Britain.....	Feb. 13, 1660-1. July 11, 1670.
Estonia.....	Canadian Trade Agreements Act accepted favoured-nation provision of United Kingdom—Estonia Treaty of Commerce and Navigation, Jan. 18, 1926.....	June 11, 1928.
Finland.....	Finland Trade Agreement Act accepted most-favoured-nation terms of United Kingdom-Finland Treaty of Commerce and Navigation of Dec. 14, 1923.....	June 12, 1925.
France, colonies, possessions and protectorates ¹	Convention of Commerce with Canada. (French concessions to Canada do not include full most-favoured-nation treatment).....	Dec. 15, 1922.
Hungary.....	Canadian Trade Agreements Act accepted favoured-nation provision of United Kingdom-Hungary Treaty of Commerce and Navigation of July 23, 1926.....	June 11, 1928.
Italy, colonies and possessions....	Convention of Commerce with Canada.....	Jan. 4, 1923.
Japan.....	Japanese Treaty Act sanctioned (with provisos) United Kingdom-Japan Treaty of Commerce and Navigation of April 3, 1911.....	April 10, 1913.
Latvia.....	Canadian Trade Agreements Act accepted most-favoured-nation provision of Great Britain-Latvia Treaty of Commerce and Navigation, June 22, 1923.	June 11, 1928.
Lithuania.....	Canadian Trade Agreements Act accepted most-favoured-nation provision of Great Britain-Lithuania agreement respecting commercial relations, May 6, 1922.....	June 11, 1928.
Netherlands, Netherlands Indies, Surinam and Curaçao.....	Convention of Commerce with Canada.....	July 11, 1924.
Norway.....	Convention of Commerce and Navigation between Great Britain and (Sweden and) Norway.....	Mar. 18, 1826.
Portugal, including Madeira, Porto Santo, and Azores.....	Canadian Trade Agreements Act accepted most-favoured-nation provision of Great Britain-Portugal Treaty of Commerce and Navigation, Aug. 12, 1914.	June 11, 1928.
Roumania.....	Exchange of Notes under Article 36, Treaty of Commerce and Navigation between United Kingdom and Roumania, Aug. 6, 1930.....	Sept. 30, 1930.
Serb-Croat-Slovene Kingdom (Yugoslavia).....	Canadian Trade Agreements Act accepted most-favoured-nation provision of United Kingdom-Serb-Croat-Slovene Kingdom Treaty of Commerce and Navigation, May 12, 1927.....	June 11, 1928.
Spain.....	Spanish Treaty Act sanctioned United Kingdom-Spain Treaty of Commerce and Navigation, Oct. 31, 1922 (revised April 5, 1927), also United Kingdom-Spain Agreement, June 27, 1924, regulating treatment of companies.....	June 11, 1928.
Sweden.....	Convention of Commerce and Navigation between Great Britain and Sweden (and Norway).....	Mar. 18, 1826.
Switzerland.....	Treaty of Friendship, Commerce and Reciprocal Establishment between Great Britain and Switzerland.....	Sept. 6, 1855.
Venezuela.....	Treaty of Amity, Commerce and Navigation between Great Britain and Colombia (of which Venezuela was then part).....	April 18, 1825.

¹To terminate June 16, 1932.

Under mutual most-favoured-nation customs treatment each contracting country accords to the goods of the other the lowest duties applied to similar products of any foreign origin, unless there are reservations. These reservations would be tariff concessions, not considered of relatively great importance, which one country may grant to another on historical, geographical, or some related ground. Most-favoured-nation obligations do not include Canadian preferences given to other parts of the Empire. Canada's concessions to France in the Convention of Commerce of 1922 at present establish the rates applicable to most-favoured foreign nations, these being: on 125 items rates lower than intermediate and on all other items the intermediate tariff, also guarantee of most-favoured-nation treatment. In return Canada receives: (1) the French minimum tariff and most-favoured-nation treatment on some goods; (2) percentage reductions from the difference between minimum and general on another list or, if lower, the rates which are granted to the United States; (3) on all other goods the French general tariff as prior to Mar. 28, 1921, to the extent that it is accorded to the United States. The Convention of Commerce with France was for an indefinite period subject to termination (Article XXVII) on either party giving six months' notice. Canada gave such notice on Dec. 16, 1931, so that the Convention will expire on June 16, 1932. The Canadian Government expressed its willingness to enter immediately on negotiations for a new Convention beneficial to the commerce of both countries.

The value to Canada of most-favoured-nation treatment in foreign countries depends on the customs system of the country concerned. Several countries have maximum and minimum schedules, meaning that there are reduced duties for practically all goods imported from reciprocating or treaty countries. Some countries, on account of rates conceded in treaties, maintain reduced duties on specified items of their tariffs. Many countries throughout the world have a uniform tariff regardless of the origin of the goods. The benefit of most-favoured-nation treatment depends also on the extent to which tariff favours apply to countries competing with Canada in the market in question.

*Dumping Duties*¹.—In the Canadian custom tariff there is also an anti-dumping clause. In 1930 and 1931 the statutory provisions relative to the levying of special or dumping duty were amended. Special or dumping duty is now leviable upon goods exported to Canada of a class or kind made or produced in Canada, if the export or actual selling price to an importer in Canada is less than the fair market value of the same article when sold for home consumption in the usual and ordinary course in the country whence exported to Canada at the time of its exportation, or is less than the fair market value, or value for duty thereof, as determined or fixed under the provisions of the Customs Act, R.S.C., 1927, c. 42 (see also sections 36, 37, paragraphs "a" and "e" of 41, and section 43, Statutes of 1930, c. 2).

It is provided that the special duty shall not exceed 50 p.c. *ad valorem* in any case and that goods of a class subject to duty under the Excise Act shall be exempt.

Provision is also made for the levy of additional special or dumping duty not exceeding 50 p.c. when it appears that any person owning or controlling or interested in a business in Canada and also in any other country, or carrying on a business in any other country and owning, controlling or interested in a business operating in

¹ Revised in the Customs and Excise Division, Department of National Revenue.

Canada is enabled thereby to import goods for further manufacture or assembling, or for resale and disposal of such imported goods, whether in the form as imported or as further processed, assembled or manufactured, at prices below the duty paid value thereof as entered at Customs plus, if any, the cost of processing, assembling or further manufacture in Canada. The Minister may declare that goods of such class or kind were and are an importation subject to additional special or dumping duty not exceeding 50 p.c.

Drawbacks.—Drawbacks of 99 p.c. of duties paid on imported materials are allowed by the customs laws and regulations in cases where articles manufactured from such materials are afterwards exported.

Surtax.—In 1903 the Customs Tariff Act of 1897 was amended to provide for a surtax of one-third of the duty on goods, the product of any foreign country which treats imports from Canada less favourably than those from other countries. This surtax was at once applied against certain German goods but was removed on Mar. 1, 1910, when Canada obtained the conventional rates of the German tariff on a specified list of goods. Under the Customs Tariff Act of 1914 the rate of surtax was left to be fixed in each case by the Governor in Council but was not to exceed 20 p.c. *ad valorem*. In the 1931 Tariff Amendments the maximum of the rate of surtax was increased to 33½ p.c. *ad valorem*.

Powers of the Governor in Council.—The Governor in Council may make reductions of duties on goods imported into Canada from countries granting reductions on Canadian products.

The Governor in Council is given power to prohibit the importation of any goods exported directly or indirectly from any country not a contracting party to the Treaty of Versailles executed at Paris, France, on the 28th June, 1919.

In the event of producers of goods taking advantage of any duty under the provisions of the Customs Tariff, the Governor in Council is empowered to reduce or remove such duty and, in the case of a producer violating the provisions, to impose upon all his products an Excise duty equivalent to the amount of Customs duty which would be paid by such goods if imported under the provisions of the General Tariff. These provisions, however, do not apply to agricultural products.

Combinations.—Whenever it is deemed in the public interest to inquire into any combination alleged to exist detrimental to consumers, the Governor in Council may commission or empower any judge of the Supreme Court or of the Exchequer Court of Canada, or of any superior court or county court in Canada to hold an inquiry in a summary way and to report to the Governor in Council whether such combination exists, the judge being empowered to compel attendance of witnesses, examine them under oath, and require production of books and papers, etc., and upon the judge reporting the existence of such a combination, the Governor in Council is given authority to admit the article concerned free of duty, or so reduce the duty thereon as to give the public the benefit of reasonable competition if it appears that the disadvantage to the consumer is facilitated by the duties of Customs imposed on a like article.

Section 2.—The Commercial Intelligence Service.¹

The Commercial Intelligence Service, maintained by the Department of Trade and Commerce, is designed to further the interests of Canadian trade in other parts of the Empire and in foreign countries. To this end there are established throughout the world offices administered by Trade Commissioners. These Trade Commissioners make periodical reports upon trade and financial conditions, variations in markets and the current demand or opportunities for Canadian products. They also secure and forward to the Department in Ottawa specific inquiries for Canadian goods and in general exert their best efforts for the development and expansion of overseas markets.

Organization at Ottawa.—Besides the overseas organization of the Commercial Intelligence Service, there is a headquarters staff at Ottawa. This is presided over by a Director, who is the head of the Service and administers and unifies the work assigned to the various Trade Commissioners. Assisting the Director are the following divisions: Trade Inquiries—where trade reports and information on foreign markets are filed in order to answer foreign and Canadian trade inquiries; Editorial—where the Commercial Intelligence Journal is compiled; Foreign Tariffs—where all the latest tariff data are kept and tariff inquiries answered; and the division handling the Directory of Canadian Exporters—where Canadian exporters are listed, with their agents abroad, commodities handled, ratings, cables and codes used, etc., and where the Foreign Importers' Directory is kept up to date by periodical reports from the Canadian Trade Commissioners.

Also, in order to keep abreast of Canadian industrial development, each Canadian Trade Commissioner makes a periodic tour of Canada and while in this country gives first-hand information to the Canadian manufacturer regarding opportunities and conditions of trade in his territory.

Organization Abroad. A list of the countries in which Canadian Trade Commissioners are located, showing territory covered, name, post office and cable address of the Trade Commissioner in each case, is given below:—

CANADIAN GOVERNMENT TRADE COMMISSIONERS.

NOTE.—Cable address of Trade Commissioners is "Canadian" unless otherwise stated.

<i>Argentine Republic</i> (Territory includes Chile and Uruguay).....	E. L. McColl, B. Mitre 430, Buenos Aires (1).
<i>Australia</i>	D. H. Ross. Address for letters—Box 196C, G.P.O., Melbourne. Office—Safe Deposit Building, Melbourne. Commercial Agent: B. Millin, The Royal Exchange, Sydney, N.S.W.
<i>Belgium</i> (Territory includes Roumania, Bulgaria, Hungary).....	Henri Turcot, 98 Boulevard Adolphe Max, Brussels.
<i>Brazil</i>	A. S. Bleakney. Address for letters—Caixa Postal 2164, Rio de Janeiro. Office, Ed. Da "A Noite", Sala 802, Praca Maua.
<i>British West Indies</i> —	
Trinidad (Territory includes Barbados, Windward and Leeward Islands, British Guiana).....	Acting Trade Commissioner. Address for letters—P.O. Box 125, Port of Spain. Office—Colonial Bank Building.
Jamaica (Territory covers Jamaica, Hayti, the Bahamas and British Honduras).....	F. W. Fraser. Address for letters—P.O. Box 225, Kingston. Office—Canadian Bank of Commerce Chambers.
<i>China</i>	L. M. Cosgrave. Address for letters—P.O. Box 300. Office—Daily News Building, 17 The Bund, Shanghai. Paul Sykes, Dairen.
<i>Cuba</i> (Territory includes San Domingo and Porto Rico).....	James Cormack. Address for letters—Apartado 1945. Office address—Calle Obrapia 35, Havana, Cuba.

¹ Revised by H. W. Cheney, Secretary, Commercial Intelligence Service, Department of Trade and Commerce.

CANADIAN GOVERNMENT TRADE COMMISSIONERS—concluded.

NOTE.—Cable address of Trade Commissioners is "Canadian" unless otherwise stated.

- Egypt* (Territory includes the Sudan, Palestine, Cyprus, Iraq, Syria, and Persia)..... Yves Lamontagne. Address for letters—P.O. Box 1770, Cairo. Office—22 Shari Kasr el Nil, Cairo.
- France* (Territory includes French Colonies in North Africa)..... Hercule Barré, 3 rue Scribe, Paris (9). Cable add. Cancomac.
- Germany* (Territory covers Germany—except the Rhine Valley—Czechoslovakia, Austria, Poland, Estonia, Latvia, Lithuania, and Soviet Russia)..... L. D. Wilgrees, Mönckebergstrasse 31, Hamburg 36.
- Greece* (Territory includes Turkey)..... R. S. O'Meara, 1 Corai Street, Athens.
- Hong Kong* (Territory includes South China, the Philippines, British North Borneo, and Indo-China)..... Acting Trade Commissioner. Address for letters—P.O. Box 80. Office—Exchange Building, Hong Kong.
- India and Ceylon*..... R. T. Young, P.O. Box 2003. Office—8 Esplanade Mansions, Government Place East, Calcutta.
- Irish Free State and Northern Ireland*..... J. H. English, 66 Upper O'Connell Street, Dublin, Irish Free State; and 44 Ann Street, Belfast, Northern Ireland.
- Italy* (Territory includes Spain, Portugal, Gibraltar, Canary Islands, Malta, Italian Colonies in Africa, Albania and Yugoslavia)..... A. B. Muddiman, Via Manzoni Nr. 5, Milan (102).
- Japan*—
Tokyo..... J. A. Langley, Commercial Secretary. Address for letters—P.O. Box F101, Tokyo Central. Office—Imperial Life Assurance Building, Marunouchi, Tokyo.
Kobe..... Richard Grew. Address for letters—P.O. Box 230. Office—Chamber of Commerce Building, Kobe.
- Mexico* (Territory includes Central American Republics)..... C. Noel Wilde. Address for letters—Apartado Num. 126-bis, Mexico City. Office—Edificio Banco de Londres y Mexico, Num. 30. Cable address, Cancoma.
- Netherlands* (Territory includes the Rhine valley and Switzerland)..... J. C. Macgillivray, Beursplein 26B, Rotterdam.
- Netherlands East Indies* (Territory includes Straits Settlements, Federated Malay States, and Siam)..... G. R. Heasman, P.O. Box 84, Batavia, Java. Office—Chartered Bank Building, Melacca Street.
- New Zealand* (Territory includes Fiji and Western Samoa)..... C. M. Croft. Address for letters—P.O. Box 33, Auckland. Office—Yorkshire House, Shortland Street, Auckland.
- Norway* (Territory includes Scandinavian countries and Finland)..... F. H. Palmer, Jernbanetorvet 4, Oslo.
- Panama* (Territory includes Venezuela and Colombia)..... J. A. Strong, Box No. 222, Panama City.
- Peru* (Territory includes Bolivia and Ecuador)..... C. S. Bissett, Casilla 1212, Lima. Office—Calla Coca 478.
- South Africa* (Territory includes Southwest Africa, the Rhodesias, Nyasaland, Tanganyika Territory and Kenya Colony)..... G. R. Stevens. P.O. Box 683, Cape Town. Office—Cleghorn and Harris Building, Adderly Street. Cable address, Cantracom.
- United Kingdom*—
London (Territory covers Home Counties, Southeastern Counties, and East Anglia)..... Harrison Watson, Canada House, Trafalgar Square S.W. 1. Cable address, Sleighing, London.
London (Territory—for fresh fruit only—covers United Kingdom, Norway, Denmark, Sweden, France, Holland, Belgium, Germany and Spain)..... J. Forsyth Smith, Fruit Trade Commissioner, Walte House, Bedford Street, Strand, W.C. 2. Cable address, Canfrucum.
- Liverpool* (Territory covers North of England, Lincolnshire, North Midlands, and North Wales)..... H. R. Poussette, Century Buildings, 31 North John Street.
- Bristol* (Territory covers West of England, South Wales, and South Midlands)..... Douglas S. Cole, Sun Building, Clare Street.
- Glasgow*..... Gordon B. Johnson, 200 St. Vincent Street. Cable address, Cantracom.
- United States*—
New York City (Territory includes Bermuda)..... Frederic Hudd, 44 Whitehall Street. Cable address, Cantracom.

Under an arrangement made by the Minister of Trade and Commerce with the British Foreign Office, Canadian manufacturers, exporters and others interested in trade matters may secure information and advice from British commercial diplomatic officers and British consuls in all countries in which Canada is not represented by her own Commercial Intelligence Service.

Commercial Intelligence Journal.—The Commercial Intelligence Journal, containing the reports of the Trade Commissioners and other pertinent material relating to export trade, is published weekly by the Department of Trade and Commerce in both English and French editions. The subscription price for either edition is \$1 per annum in Canada and \$3.50 outside of the Dominion. Special reports dealing with various phases of Canada's export trade are also issued from time to time, as supplements to the Commercial Intelligence Journal.

Section 3.—Statistics of External Trade.¹

NOTE.—For the correct interpretation of the statistics of external trade, it is necessary that the following definitions and explanations of the terms used should be carefully kept in mind.

Fiscal Years.—The Canadian fiscal year ended on June 30 of the years from 1868 to 1906, and on Mar. 31 of 1907 and subsequent years.

Quantities and Values.—In all the following tables of imports and exports, the quantities and values are based upon the declarations of importers (import entries) and exporters (export entries), as subsequently checked by customs officials.

Imports: Valuation.—"Imports" means "Imports entered for consumption". "Entered for consumption" does not imply that the goods have been actually consumed in Canada, but that they have passed into the possession of the importer and that duty has been paid on that portion liable for duty.

The value of imported merchandise is the fair market value or the price thereof when sold for home consumption in the principal markets of the country whence, and at the time when, the same were exported directly to Canada. The "price" and "value" of the goods in every case are stated as in condition packed ready for shipment, the fair value being shown in the currency of the country of export, and the selling price to the purchaser in Canada shown in the actual currency in which the goods were purchased. In the case of goods that are the manufactures or produce of a foreign country the currency of which is substantially depreciated, the value stated is the value that would be placed on similar goods manufactured or purchased in the United Kingdom and imported from that country, if such similar goods are made or produced there. If similar goods are not made or produced in the United Kingdom, the value stated is the value of similar goods made or produced in any European country the currency of which is not substantially depreciated.

Canadian Exports: Valuation.—"Canadian produce" exported includes Canadian products or manufactures, also exports of commodities of foreign origin which have been changed in form or enhanced in value by further manufacture in Canada, such as sugar refined in Canada from imported raw sugar, flour ground from imported wheat, and articles constructed or manufactured from imported materials. The value of exports of Canadian merchandise is the actual cost or the value at the time of exportation at the points in Canada whence originally shipped.

¹ Revised by W. A. Warne, Chief, External Trade Branch, Dominion Bureau of Statistics. This Branch publishes the Annual Report of the Trade of Canada, the Condensed Preliminary Report of the Trade of Canada (annual), the Quarterly Report of the Trade of Canada, the Calendar Year Report of the Trade of Canada, the Summary of the Trade of Canada (monthly), etc. For complete list of the publications of this Branch see Chapter XXIX, Section 1, under "External Trade".

Foreign Exports: Valuation.—"Foreign produce" exported consists of foreign merchandise which had previously been imported (entered for home consumption). The value of such commodities is the actual cost.

Countries to which Trade is Credited.—Imports are classified as received from the countries whence they were consigned to Canada. The countries of consignment are the countries from which the goods have come, without interruption of transit, save in the course of transshipment or transfer from one conveyance to another. The countries whence goods are consigned are not necessarily the countries of actual origin, since goods produced in one country may be purchased by a firm in another country and thence despatched, after a longer or shorter interval, to Canada. In such cases the second country would be the country of consignment to which the goods would be credited. An example is the case of tea grown in the Orient but purchased in the bonded market in London, England; Canadian statistics record such imports as coming from the United Kingdom.

Exports are credited to the country of final destination, *i.e.*, the country to which they are consigned, whether that country possesses a seaboard or not. The country of final destination is the country to which goods exported from Canada are intended to pass, without interruption of transit save in the course of transshipment or transfer from one means of conveyance to another.

Discrepancies in Trade Statistics between Canada and Other Countries.—Canadian statistics of exports are rarely in exact agreement with the import figures of her customers and similar differences occur with Canadian imports. Many factors contribute to these discrepancies; among these are the following:—

(1) Differences in the basis of the Canadian valuations and the valuations of other countries.

(2) Even where the statistics cover the same period of time, there are quantities of goods in transit at the beginning and end of the period. Such goods are included in the statistics of the exporting country but not in the statistics of the importing country.

(3) By far the greatest discrepancies occur from the impossibility of determining the country of final destination for exports or the actual country of origin for imports. Thus about 40 p.c. of Canada's exports to overseas countries are shipped *via* the United States. Some of this is credited by importing countries to the United States. Canadian grain exports, for example, are to a large extent routed through the United States in bond. Most of this grain leaves Canada with the United Kingdom as the stated destination, but large quantities are later diverted to other European or overseas countries and some is taken out of bond for consumption in the United States. Thus the Canadian record of exports to the United Kingdom may be \$100,000,000 or more in excess of Canadian products actually received by the United Kingdom, while stated exports to other overseas countries are short of this amount. Again, United States grain is routed through Canada and shipped from Montreal and therefore frequently shown by other countries as imported from Canada, while it is included in United States statistics as an export to Canada. As mentioned above, purchases in bonded markets in England, Germany, Belgium and France are included in Canadian imports from those countries but are not included by those countries in exports to Canada.

For more detailed discussion of this subject see the article and tables on "Discrepancies in Trade Statistics" on pp. 778-781 of the Annual Report on the Trade of Canada, 1928, published by the Dominion Bureau of Statistics.

Subsection 1.—Historical Statistics of Canadian Trade.

A general view of the trade of Canada in the fiscal years from 1868 to 1931 is furnished in Table 1 (p. 416), giving the imports of merchandise for home consumption, dutiable and free, and the exports of Canadian and foreign produce, the total trade as here given being the aggregate of the two. Necessarily, some difficulties have been met in maintaining comparable statistics through such a length of time, one of the most serious of these arising through different methods adopted in dealing with exports of foreign produce. For example, the shrinkage in the exports of foreign produce after 1920 has been due to change of statistical method rather than to actual diminution in value or volume of such goods exported. For the past 11 years, re-exports of foreign products from bonded warehouses have no longer been included in Canadian trade statistics either as imports or as exports, while the exports of foreign produce during this period have been composed of goods which had previously been entered as imports for home consumption. Such goods are debited to Canada when entering this country, and should be credited to Canada when re-exported.

From Table 2 it will be observed that, in most of the years from Confederation to the outbreak of the Great War, imports entered for consumption exceeded total exports, especially during the great growing period from 1904 to 1914. From 1915 to 1929, except in the fiscal year ended Mar. 31, 1921, there was an annual excess of total exports over imports entered for consumption. In the fiscal years ended Mar. 31, 1930 and 1931, however, there was an excess of imports changed to an excess of exports in 1932.

The percentage of exports to imports rose to a peak of 164.62 in 1918, owing to the exportation of war supplies, then dropped to 97.60 in 1921, rose again to 143.28 in 1926 and has since declined to 109.72 in 1929, 91.72 in 1930 and 90.12 in 1931, rising to 101.56 in 1932.

The values of coin and bullion imported and exported are shown in Table 3. Amounts collected in export duties from 1868 to 1892, and in import duties from 1868 to 1931, together with the cost of collection expressed as a percentage of the total duties, are stated by years in Table 4. Tables 5 and 6 show respectively our exports of Canadian produce and our imports for home consumption, furnishing figures of our trade with the United Kingdom, United States and other countries since 1868. These figures show the overwhelming predominance of the two great English speaking countries in our foreign trade; in the fiscal year ended Mar. 31, 1931, for example, 71.1 p.c. of our exports of domestic produce was shipped to these two countries, which, in the same year, together provided 81.0 p.c. of our imports for home consumption. Tables 7 and 8 show respectively by years the percentage proportions of imports from the United Kingdom and the United States to totals of dutiable and free imports since 1907, and the *ad valorem* rates of duty collected on imports from these and from all countries from 1868 to 1931.

Importations of important raw materials used in Canadian manufacturing industries are given in Table 9 for the fiscal years ended 1911 to 1931.

The statistics in the following table indicate the trend of Canadian trade by main groups in 1914 (pre-war year), 1921 (peak year of post-war inflation) and 1931, (a) with all countries, (b) with the United Kingdom, and (c) with the United States.

SUMMARY OF THE TRADE OF CANADA BY MAIN GROUPS, FISCAL YEARS ENDED MAR. 31, 1914, 1921 AND 1931.

Group.	Values of Imports (Million \$).			Values of Exports (Canadian) (Million \$).			Percentages of 1931—			
							Imports to—		Exports to—	
	1914.	1921.	1931.	1914.	1921.	1931.	1914.	1921.	1914.	1921.
Agricultural and Vegetable Products.....	97.6	259.4	177.6	201.2	482.1	292.3	180.9	68.5	145.2	60.6
Animals and Products.....	41.1	61.7	45.0	76.6	188.4	83.7	111.9	74.5	109.3	44.4
Fibres and Textiles.....	109.2	243.6	130.7	1.9	18.8	6.5	119.7	53.6	342.1	34.5
Wood and Paper.....	37.4	57.5	46.0	63.2	284.6	230.6	123.0	80.0	364.7	80.9
Iron and Its Products.....	143.8	245.6	194.9	15.5	76.5	38.9	135.5	79.2	250.9	50.7
Non-Ferrous Metals.....	35.6	55.7	59.6	53.3	45.9	95.7	170.2	107.0	179.5	208.5
Non-Metallic Minerals.....	85.3	206.1	153.6	9.3	40.1	21.1	180.1	74.5	226.9	52.6
Chemicals and Allied Products.....	17.1	37.9	35.7	4.9	20.4	12.8	208.8	94.2	261.2	62.7
Miscellaneous Commodities..	52.1	72.7	62.5	5.7	32.4	18.1	119.9	85.9	315.5	55.9
Totals.....	619.2	1,240.2	906.6	431.6	1,189.2	799.7	146.4	73.1	185.3	67.3

(a) WITH ALL COUNTRIES.

Agricultural and Vegetable Products.....	16.2	38.7	41.8	146.8	141.2	141.1	258.0	108.0	96.1	99.9
Animals and Products.....	5.7	5.2	3.8	35.4	91.3	31.2	66.6	73.0	88.1	34.2
Fibres and Textiles.....	60.6	111.3	49.2	0.2	2.6	1.0	81.2	44.2	500.0	38.4
Wood and Paper.....	3.7	3.1	4.5	12.8	36.8	17.3	121.6	145.1	135.1	47.0
Iron and Its Products.....	17.3	16.7	18.2	1.4	17.6	4.1	105.2	109.0	292.8	23.3
Non-Ferrous Metals.....	4.8	6.7	6.2	16.6	9.9	17.2	129.1	92.5	103.6	173.7
Non-Metallic Minerals.....	6.3	9.1	12.9	0.4	3.1	1.5	204.7	141.7	333.3	48.4
Chemicals and Allied Products.....	4.3	6.0	4.6	0.6	3.4	2.7	107.0	76.6	450.0	80.0
Miscellaneous Commodities..	13.2	17.1	8.3	1.0	6.9	3.1	62.8	48.5	310.0	44.9
Totals.....	132.1	213.9	149.5	215.2	312.8	219.2	113.2	70.0	100.2	70.1

(b) WITH THE UNITED KINGDOM.

Agricultural and Vegetable Products.....	44.1	119.6	67.6	34.1	146.5	27.6	153.2	56.5	80.9	18.8
Animals and Products.....	23.3	42.9	26.1	32.3	75.8	34.1	112.0	60.8	105.6	44.9
Fibres and Textiles.....	32.5	101.7	48.2	1.2	7.1	2.1	148.3	47.4	166.6	29.7
Wood and Paper.....	31.7	52.4	38.1	45.2	216.0	188.9	120.1	72.7	417.9	87.4
Iron and Its Products.....	121.4	226.9	168.4	2.0	19.7	6.1	138.7	74.2	305.0	30.9
Non-Ferrous Metals.....	27.7	46.0	48.5	34.2	30.0	58.8	171.5	105.4	171.6	196.0
Non-Metallic Minerals.....	74.2	188.4	119.0	7.2	22.3	13.3	160.3	63.1	184.7	59.6
Chemicals and Allied Products.....	9.6	28.1	23.2	3.2	12.2	6.4	241.6	82.5	196.8	51.6
Miscellaneous Commodities..	31.8	50.2	45.3	4.0	12.7	12.4	142.4	90.2	310.0	97.0
Totals.....	396.3	856.2	584.4	163.4	542.3	349.7	147.5	68.3	213.9	64.8

(c) WITH THE UNITED STATES.

The statistics in the following table indicate the trend of Canadian trade from 1914 to 1931, (a) with all countries, (b) with the United Kingdom, and (c) with the United States.

SUMMARY OF TREND OF CANADIAN TRADE, 1914 TO 1931.

(Values in Millions of Dollars.)

Fiscal Year.	Imports into Canada.				Exports from Canada.			Excess of— Imports (i) Exports (e).	Percentage of Exports to Imports.
	Duti-able Goods.	Free Goods.	Total Im-ports.	Per cent Free.	Can-adian Pro-duce.	Foreign Pro-duce.	Total Exports.		
(a) WITH ALL COUNTRIES.									
1914.....	410.3	208.9	619.2	33.7	431.6	23.8	455.4	(i) 163.8	73.6
1915.....	279.8	176.1	455.9	38.6	409.4	52.0	461.4	(e) 5.5	101.2
1916.....	289.4	218.8	508.2	43.0	741.6	37.7	779.3	(e) 271.1	153.3
1917.....	461.7	384.7	846.4	45.4	1,151.4	27.8	1,179.2	(e) 332.8	139.3
1918.....	542.3	421.2	963.5	43.7	1,540.0	46.1	1,586.1	(e) 622.6	164.6
1919.....	526.5	393.2	919.7	42.7	1,216.4	52.3	1,268.7	(e) 349.0	137.9
1920.....	693.6	370.9	1,064.5	34.8	1,239.5	47.1	1,286.6	(e) 222.1	120.9
1921.....	847.5	392.6	1,240.1	31.6	1,189.2	21.2	1,210.4	(i) 29.7	97.6
1922.....	495.6	252.2	747.8	33.7	740.2	13.7	753.9	(e) 6.1	100.8
1923.....	537.3	265.3	802.6	33.0	931.5	13.8	945.3	(e) 142.7	117.8
1924.....	591.3	302.1	893.4	33.8	1,045.4	13.4	1,058.8	(e) 165.4	118.5
1925.....	516.0	280.9	796.9	35.1	1,069.1	12.3	1,081.4	(e) 284.5	135.7
1926.....	583.0	344.3	927.3	37.1	1,315.4	13.3	1,328.7	(e) 401.4	143.3
1927.....	659.9	371.0	1,030.9	36.0	1,252.2	15.4	1,267.6	(e) 236.7	122.9
1928.....	710.1	398.9	1,109.0	36.0	1,228.4	22.2	1,250.6	(e) 141.6	112.8
1929.....	821.1	444.6	1,265.7	35.1	1,363.7	25.2	1,388.9	(e) 123.2	109.7
1930.....	819.2	429.1	1,248.3	34.5	1,120.3	24.7	1,145.0	(i) 103.3	91.7
1931.....	574.1	332.5	906.6	36.6	799.7	17.3	817.0	(i) 89.6	90.1
(b) WITH THE UNITED KINGDOM.									
1914.....	102.4	29.7	132.1	22.5	215.2	7.1	222.3	(e) 90.2	167.5
1915.....	68.0	22.1	90.1	24.5	186.6	25.1	211.7	(e) 121.6	234.9
1916.....	52.0	25.4	77.4	32.8	451.9	11.2	463.1	(e) 385.7	598.3
1917.....	75.5	31.6	107.1	29.5	742.1	13.9	756.0	(e) 648.9	705.9
1918.....	58.0	23.3	81.3	28.6	845.5	15.6	861.1	(e) 779.8	1,059.1
1919.....	50.0	23.0	73.0	31.5	540.7	20.1	560.8	(e) 487.8	768.2
1920.....	93.2	33.1	126.3	26.2	489.2	6.8	496.0	(e) 369.7	392.7
1921.....	170.1	43.8	213.9	20.5	312.8	1.4	314.2	(e) 100.3	146.9
1922.....	95.1	22.0	117.1	18.8	299.4	1.0	300.4	(e) 183.3	256.5
1923.....	116.2	25.1	141.3	17.7	379.1	0.8	379.9	(e) 238.6	268.8
1924.....	126.1	27.5	153.6	17.8	360.1	1.1	361.2	(e) 207.6	235.1
1925.....	124.7	26.4	151.1	17.5	395.9	1.3	397.2	(e) 246.1	262.8
1926.....	133.1	30.6	163.7	18.6	508.2	1.1	509.3	(e) 345.6	311.1
1927.....	135.0	28.9	163.9	17.6	446.9	1.1	448.0	(e) 284.1	273.3
1928.....	150.1	36.4	186.5	19.1	410.7	2.1	412.8	(e) 226.3	222.1
1929.....	154.4	39.6	194.0	20.4	429.7	1.9	431.6	(e) 237.6	222.4
1930.....	148.7	40.5	189.2	21.4	281.7	1.4	283.1	(e) 93.9	149.6
1931.....	108.6	40.9	149.5	27.4	219.2	1.4	220.6	(e) 71.2	147.5
(c) WITH THE UNITED STATES.									
1914.....	249.5	146.8	396.3	37.0	163.4	13.6	177.0	(i) 219.3	44.6
1915.....	168.6	128.5	297.1	43.2	173.3	13.0	186.3	(i) 110.8	62.7
1916.....	199.5	171.4	370.9	46.2	201.1	15.6	216.7	(i) 154.2	58.4
1917.....	332.0	333.3	665.3	50.1	280.6	10.0	290.6	(i) 374.7	43.7
1918.....	429.3	336.6	792.9	45.8	417.2	23.6	440.8	(i) 352.1	55.6
1919.....	416.5	333.7	750.2	44.5	454.9	22.8	477.7	(i) 272.5	63.7
1920.....	499.7	301.4	801.1	37.6	464.0	37.1	501.1	(i) 300.0	62.5
1921.....	544.0	312.2	856.2	36.5	542.3	18.4	560.7	(i) 295.5	65.5
1922.....	312.1	203.9	516.0	39.5	292.6	11.5	304.1	(i) 211.9	58.9
1923.....	392.2	208.8	601.0	38.6	369.1	11.2	380.3	(i) 160.7	70.3
1924.....	355.9	245.3	601.2	40.8	430.7	10.9	441.6	(i) 159.6	73.4
1925.....	287.1	222.7	509.8	43.7	417.4	9.8	427.2	(i) 82.6	83.8
1926.....	338.0	270.7	608.6	44.5	474.9	11.0	485.9	(i) 122.7	79.7
1927.....	392.7	294.3	687.0	42.9	466.4	12.9	479.3	(i) 207.7	69.7
1928.....	416.0	302.9	718.9	42.1	478.1	18.7	496.8	(i) 222.1	69.0
1929.....	523.9	344.1	868.0	39.6	499.6	21.7	521.3	(i) 346.7	60.1
1930.....	523.3	324.1	847.4	38.2	515.0	21.6	536.6	(i) 310.8	63.3
1931.....	359.6	224.8	584.4	38.5	349.7	14.3	364.0	(i) 220.4	62.3

Subsection 2.—General Analysis of Current Import and Export Trade.

The external trade of Canada, in common with that of every other country in the world, suffered a severe decline, both in volume and in value, following the war. By 1929, however, the value of Canada's external trade had reached an amount greater than even during the war years. Since then Canada's trade, like that of the principal trading countries of the world, has declined severely, reflecting the general depression in commerce and industry. The severe decline in commodity prices, which characterized all world markets, was largely responsible for this trade decrease. The particulars are set forth in the following table:—

Fiscal Year.	Imports.		Exports (Canadian).	
	Declared Value.	Based on 1926 Average Value.	Declared Value.	Based on 1926 Average Value.
	\$	\$	\$	\$
1924.....	893,367,000	855,692,000	1,045,351,000	1,189,945,000
1925.....	796,933,000	805,247,000	1,069,067,000	1,120,360,000
1926.....	927,329,000	927,329,000	1,315,356,000	1,315,356,000
1927.....	1,030,893,000	1,100,530,000	1,252,158,000	1,253,685,000
1928.....	1,108,956,000	1,190,802,000	1,228,349,000	1,302,285,000
1929.....	1,265,679,000	1,403,856,000	1,363,710,000	1,548,578,000
1930.....	1,248,274,000	1,455,155,000	1,120,258,000	1,254,974,000
1931.....	906,613,000	1,162,701,000	799,653,000	1,097,271,000

Canada's total imports of merchandise in 1931, amounting to \$906,612,695, show a decrease of 27·4 p.c. compared with 1930, and exports of domestic merchandise, amounting to \$799,652,667, a decrease of 28·6 p.c. During the past year, the drastic decline in commodity prices has materially affected the comparability of trade statistics. When the fluctuations in import and export prices have been eliminated from Canadian trade, by re-valuing the quantities imported and exported in 1931 at 1926 average values, as in the above table, the 1931 imports declined 20·1 p.c. and exports 12·5 p.c. from 1930. A still more accurate relationship may be shown if the 1931 trade be compared with that of 1930 on the basis of 1930 average values, when imports, according to a preliminary survey, show a decrease of only 16·3 p.c. and exports of 13·3 p.c.

The decline in Canada's trade was not so marked as that of the United States and some of the other competitive British and foreign countries. The imports of Canada for the calendar year 1930, compared with 1929, declined 22·4 p.c. as against 27·7 p.c. for the United States, while her domestic exports declined 25·1 p.c. compared with a decline in United States exports of 26·7 p.c. The trade of both Canada and the United States suffered more from the general trade depression of the world than the trade of the chief commercial countries of Europe.

Statistical Tables of Current Trade.—Tables 10 to 18 (pp. 424-489) deal with the current trade statistics of the Dominion. Tables 10 and 11 are summary tables, showing by groups our trade with the United Kingdom, the United States and all countries, by values and percentages, for the latest four fiscal years. Table 12 shows the same in detail for exports and Table 13 for imports of all important articles. Table 14 shows by main classes imports as dutiable and free and exports as of Canadian and foreign produce for the five fiscal years ended 1931. Table 15 shows imports and exports for the fiscal year ended 1931 by degree of manufacture and by origin, and Table 16 gives similar information on a classification according to purpose. Table 17 gives our imports and exports for the two latest years by ports and provinces, and Table 18 shows the values imported from different countries under the preferential, treaty rate and general tariffs in 1930 and 1931.

Subsection 3.—Trade with the United Kingdom and the British Empire.

Trade with the United Kingdom.—Imports from the United Kingdom in 1931 were valued at \$149,497,392, in 1930 at \$189,179,738 and in 1929 at \$194,041,381; the decrease in 1931 compared with 1930 amounted to \$39,682,346 or 20.9 p.c. and with 1929 to \$44,543,989 or 22.4 p.c. The domestic exports from Canada to the United Kingdom in 1931 were valued at \$219,246,499, in 1930 at \$281,745,965 and in 1929 at \$429,730,485; the decrease in 1931 compared with 1930 amounted to \$62,499,466 or 22.1 p.c. and compared with 1929 to \$210,483,986 or 49.0 p.c.

The decrease in the imports from the United Kingdom in 1931 compared with 1930 occurred in every one of the nine main groups. However, in recent years from 55 p.c. to 60 p.c. of Canada's imports from the United Kingdom have been made up of textiles and alcoholic beverages and it was in these commodities that the principal reductions occurred—\$19,000,000 in textiles and nearly \$8,000,000 in beverages, while iron products decreased \$3,400,000. The only commodities to show large increases in imports were tea, iron plates and sheets, and coal.

Canada's exports to the United Kingdom consist chiefly of agricultural and vegetable, animal, wood and paper and non-ferrous metal products. Of the decrease in the 1931 domestic exports, as compared with those of 1930, amounting to \$62,500,000, agricultural and vegetable products (chiefly wheat and barley) accounted for \$45,400,000, while a further \$9,500,000 occurred in animal products (chiefly cheese, meats and raw furs). Newsprint paper, automobiles, pig lead and acids were other commodities showing largely decreased exports. Exports of non-ferrous metal products as a group showed increased exports largely due to important increases in exports of nickel and platinum.

The commodities making up Canada's export and import trade with the United Kingdom are dealt with in detail in Tables 12 and 13 of this chapter.

The British Wheat Quota.—In the following tables, the more important statistics bearing on the problem of the proposed British wheat quota and the wheat imports into the United Kingdom are shown. In the interpretation of these tables it should be remembered that, owing to the curtailed marketing policy followed by the Canadian wheat pools in 1929 and the short crops of 1929 and 1930, exports of Canadian wheat in those years were distinctly subnormal. It should also be borne in mind that, in the ordinary discussion of the wheat quota, British home-grown wheat is included, whereas this analysis deals only with imported wheat.

The first table is based on United Kingdom records of imports. The accuracy of the United Kingdom records of imports is questioned because of the confusion of Canadian exports *via* the United States with the actual exports of that country and similarly because some United States wheat is exported *via* Montreal and may thus be confused with Canadian wheat. Therefore, to the United Kingdom record of wheat imported from Canada is added the difference between the United Kingdom imports of United States wheat and the United States exports to the United Kingdom, the difference being Canadian wheat exported through the United States. A corresponding deduction is made for the United States wheat exported to Britain through Montreal. The resulting adjusted figures show considerably higher percentages for both Empire and Canadian wheat than the unadjusted import records of the United Kingdom, and, taking the years 1925 to 1928 as more representative than the two latest years for reasons already stated, the average for these four years is 62 p.c. Empire wheat and 46 p.c. Canadian.

IMPORTS OF WHEAT INTO THE UNITED KINGDOM, CALENDAR YEARS 1925 TO 1930.
(Based on United Kingdom and United States records.)

Item.	1925.	1926.	1927.	1928.	1929.	1930.
	bush.	bush.	bush.	bush.	bush.	bush.
ACCORDING TO UNITED KINGDOM RECORDS.						
Total Imports of wheat into United Kingdom.....	180,794,465	179,677,923	206,146,854	193,344,613	208,632,476	196,047,802
Imports from—						
British Empire.....	99,689,412	88,789,937	97,178,013	98,644,273	75,199,314	79,299,671
Per cent of total.....	55·14	49·42	47·14	51·00	36·06	40·41
Foreign Countries.....	81,105,053	90,887,986	108,968,841	94,700,340	133,433,162	116,748,131
Per cent of total.....	44·86	50·58	52·86	49·00	63·94	59·59
Canada.....	55,397,439	66,583,127	60,071,863	76,543,585	50,756,257	48,908,555
Per cent of total.....	30·64	37·07	29·14	39·58	24·33	24·94
Imports into United Kingdom from United States..	49,483,627	58,208,128	66,488,802	44,169,976	41,563,107	39,349,463
Exports from United States to United Kingdom.....	17,099,640	37,897,269	42,579,616	14,222,047	21,772,396	23,113,006
Excess United Kingdom Imports over United States Exports (Canadian wheat)	32,383,987	20,310,859	23,909,186	29,947,929	19,790,711	16,236,463
Exports from United States to United Kingdom <i>via</i> Montreal (U.S. wheat)....	2,763,952	3,929,564	7,169,077	5,559,362	2,250,335	3,055,278
ADJUSTED FIGURES.						
Imports from—						
British Empire.....	129,309,447	105,171,232	113,918,122	123,032,840	92,739,690	92,480,856
Per cent of total.....	71·52	58·53	55·26	63·63	44·45	47·17
Foreign Countries.....	51,485,018	74,506,691	92,228,732	70,311,773	115,892,785	103,566,946
Per cent of total.....	28·48	41·47	44·74	36·37	55·55	52·83
Canada.....	85,007,474	82,964,422	76,811,972	100,932,152	68,296,633	62,089,741
Per cent of total.....	47·02	46·17	37·26	52·20	32·73	31·67

The second table is based upon Canadian records of exports. According to United States 'in transit' figures, about 50 p.c. of the Canadian wheat shown in Canadian trade statistics as exported to the United Kingdom *via* United States border ports is diverted while in transit through the United States to other destinations, chiefly the continent of Europe; while a considerable amount of this Canadian wheat is also rerouted, chiefly *via* Montreal, and about 63 p.c. of this rerouted wheat is diverted from the United Kingdom to other destinations, chiefly the continent of Europe. Allowances are made in the adjusted figures for these diversions. Thus, when based upon Canadian export records, the United Kingdom imports of wheat during the years 1926 to 1928 are estimated to have averaged 76 p.c. from the Empire and 62 p.c. from Canada, compared with percentages of 59 p.c. and 45 p.c. respectively, for the same years in the estimate of the first table based upon adjusted British import records. It is difficult to explain the discrepancy between the two sets of figures. It may be partly accounted for by the fact that cargoes which leave America with the stated destination of the United Kingdom are sometimes diverted in whole or in part from British ports to other European countries. On the other hand, vessels destined for continental European ports frequently discharge all or part of their cargo in British ports, in which case the wheat would probably be recorded as an import from the country from which the cargo was diverted. The actual amount of Canadian wheat imported into Britain would probably be somewhere between the figures given in these two tables.

CANADA'S DOMESTIC EXPORTS OF WHEAT TO THE UNITED KINGDOM, CALENDAR YEARS 1926 TO 1930.

(Based on Canadian and United States records.)

Item.	1926.	1927.	1928.	1929.	1930.
	bush.	bush.	bush.	bush.	bush.
ACCORDING TO CANADIAN TRADE RETURNS.					
Exports of Canadian Wheat to United Kingdom <i>via</i>					
(a) Canadian Sea and River Ports...	55,707,925	47,738,009	73,091,503	43,458,858	45,204,514
(b) United States Border Ports....	127,218,225	135,407,569	163,862,135	78,778,718	86,296,769
Total Exports.....	182,926,150	183,145,578	236,953,638	122,237,576	131,510,282
ADJUSTED FIGURES.					
(a) Rerouted Canadian wheat from United States Lake Ports <i>via</i> Montreal..	5,843,780	12,589,250	18,933,640	5,677,451	3,846,991
(b) Canadian wheat <i>via</i> United States Atlantic Sea Ports.....	40,162,687	60,669,020	43,790,114	35,503,348	28,799,715
(c) Canadian wheat <i>via</i> Canadian Sea and River Ports (direct).....	55,707,925	47,738,009	73,091,503	43,458,858	45,204,514
Total Exports Canadian Wheat to United Kingdom (adjusted figures)	101,714,392	120,996,279	135,815,257	84,639,657	77,851,220
Percentage of Imports into United Kingdom from the Empire if the above Canadian export figures are substituted for United Kingdom Imports from Canada	68.9	76.6	81.6	52.3	55.2
Percentage of Total Imports from Canada on above basis.....	56.6	58.7	70.2	40.6	39.7

Trade of Canada with the British Empire.—Canada was the first of the British Dominions to grant a preference on goods the produce and manufacture of the United Kingdom and reciprocating British Dominions and possessions. This preference was extended by Order in Council from time to time to other portions of the British Empire until now it is applicable to practically every British Dominion and possession. In the case of Newfoundland, in addition to the preference, Canada grants free admission to fish and fish products. Australia receives special concessions under the Trade Agreement of 1931 and the British West Indies under the agreement of 1925 referred to on p. 384. The British Preferential Tariff enacted in 1897, as well as trade treaties and agreements negotiated with British and foreign countries, have had the effect of stimulating Canada's external trade. When the British preference became effective in 1897 Canada's total imports from the United Kingdom in that year amounted to only \$29,401,000, compared with an import in 1887 valued at \$44,741,000 and in 1873 at \$67,997,000. From 1873 to 1897 imports from the United Kingdom decreased \$38,596,000 or 56.7 p.c. Thus, since the introduction of the British Preferential Tariff, a downward trend in imports from the United Kingdom has changed to one strongly upward. But in spite of the encouragement offered by the Preferential Tariff a study of the figures in the following table will show that trade with the United Kingdom, and with the British Empire as a whole, has not grown so rapidly as that with foreign countries, with the result that in both imports and exports the percentage of the total trade of Canada carried on with the British Empire has declined. The proportion of trade with parts of the Empire other than the United Kingdom has increased but not sufficiently to overcome the decreased percentage with the United Kingdom. The

trade of Canada with the British Empire for the fiscal years 1886, 1896, 1906, 1914, 1922, 1929, 1930 and 1931 was as under:—

TRADE OF CANADA WITH THE BRITISH EMPIRE.

Item and Fiscal Year.	Canadian Trade with—			Percentage of Total Trade with—		
	United Kingdom.	Other British Empire.	Total British Empire.	United Kingdom.	Other British Empire.	Total British Empire.
	\$	\$	\$	p.c.	p.c.	p.c.
IMPORTS.						
1886.....	39,033,006	2,383,560	41,416,566	40.7	2.5	43.2
1896.....	32,824,505	2,388,647	35,213,152	31.2	2.2	33.4
1906.....	69,183,915	14,605,519	83,789,434	24.4	5.1	29.5
1914.....	132,070,406	22,456,440	154,526,846	21.4	3.6	25.0
1922.....	117,135,343	31,973,910	149,109,253	15.7	4.3	20.0
1929.....	194,041,381	63,377,958	257,419,339	15.3	5.0	20.3
1930.....	189,179,738	63,523,966	252,703,704	15.2	5.1	20.3
1931.....	149,497,392	55,446,559	204,943,951	16.5	6.1	22.6
EXPORTS (Canadian).						
1886.....	36,694,263	3,262,803	39,957,066	47.2	4.2	51.4
1896.....	62,717,941	4,048,198	66,766,139	57.2	3.7	60.9
1906.....	127,456,465	10,964,757	138,421,222	54.2	4.5	58.7
1914.....	215,253,969	23,388,548	238,642,517	49.9	5.4	55.3
1922.....	299,361,675	46,473,735	345,835,410	40.4	6.3	46.7
1929.....	429,730,485	106,396,532	536,127,017	31.5	6.8	38.3
1930.....	281,745,965	97,904,303	379,650,268	25.2	8.8	34.0
1931.....	219,246,499	73,637,646	292,884,145	27.4	9.2	36.6

Subsection 4.—Trade with the United States and other Foreign Countries.

Trade with the United States.—During the fiscal year 1931, nearly 65 p.c. of Canadian imports came from the United States, including large importations, though greatly reduced from the previous year, in all the main groups of commodities. Iron and its products was again the most important group, including machinery for the expanding industries and mineral development of Canada, rolling-mill products and automobile parts and engines for further manufacture in Canadian factories, as well as finished motor vehicles, farm implements and numerous other commodities of iron and steel. The second most important group was non-metallic minerals, which includes coal and petroleum products. Imports of coal have tended to diminish somewhat in recent years, while those of petroleum have grown rapidly with the increase in motor vehicles, though reduced by \$15,000,000 in the year under review. Other commodities showing large imports from the United States were fresh fruits and vegetables, vegetable oils, raw rubber and tobacco, raw furs, cotton, silk, manila and other fibres raw or in yarns, lumber, paper products, books, magazines and printed matter, electric and wireless apparatus, and settlers' effects, this last item being the only one to show an increase over the previous year. With this exception, the values of all important commodity imports from the United States showed large reductions in the fiscal year 1931 as compared with 1930.

Among Canadian exports to the United States the wood and paper products group is by far the most important. Indeed newsprint paper constituted almost one-third of the total value of these exports in the fiscal year 1931. Other large items in this group such as wood pulp, planks and boards, pulpwood and numerous other less important wood and paper products, made the exports under this group as a whole amount to 54 p.c. of the total exports to the United States, as compared with only 46 p.c. in the previous year, so that, while exports of all these important commodities were of reduced value, the reduction was not so great proportionately as in other exports. Non-ferrous metals were still the second most important group of exports, although the value of exports to the United States under this

group fell off by 42 p.c. due to large reductions in the exports of gold, copper, nickel and aluminium. The Animal Products group, including fish, furs, hides, leather, milk and cream, and cattle, was third in importance in exports to the United States. Exports of whiskey dropped from \$16,000,000 to \$2,700,000, due in part to a change in export regulations. Exports of wheat valued at \$7,700,000 slightly exceeded those of the previous year, while potatoes at \$4,000,000 showed a reduction of 29 p.c.

The total trade of Canada with the United States in the fiscal year 1931 was 31.4 p.c. less than in 1930 and 31.7 p.c. less than in 1929. Imports were 31.0 p.c. less, while exports were 32.2 p.c. less than in 1930.

For a more detailed treatment of the commodities making up our export and import trade with the United States, see Tables 12 and 13 of this chapter.

Canadian Trade via the United States.—Imports from overseas countries *via* the United States have steadily declined in recent years, especially those from the British Empire. This decrease has followed: (1) general propaganda to utilize Canadian sea and river ports, (2) additional concessions to goods imported under the Preferential Tariff if they come direct. Provision has been made, in trade treaties and agreements negotiated with foreign countries, that goods must be imported *via* a Canadian sea or river port in order to obtain the full benefits of special rates of duty. Between 1920 and 1931 imports *via* the United States have decreased from 9.5 p.c. to 2.8 p.c. of the total imports from overseas countries.

The proportion of exports from Canada to overseas countries *via* the United States shows a slight decline since 1927, the percentages for the past nine fiscal years being: 1922, 32.8; 1923, 41.1; 1924, 36.2; 1925, 39.3; 1926, 39.2; 1927, 39.5; 1928, 38.9; 1929, 36.7; 1930, 33.8 and 1931, 27.5. Details by countries are given in Table 21 of this chapter.

Trade with Other Foreign Countries.—The relative changes in the positions occupied by the United States and other foreign countries in Canada's trade in various years from 1886 to 1931 are shown in the following table. Imports from the United States have increased from 44.6 p.c. to 64.5 p.c. of total imports, while imports from other foreign countries have remained fairly constant. In the case of Canadian exports, on the other hand, those to the United States have fluctuated between 34 p.c. and 46 p.c. of the total, while those to other foreign countries have increased from 4.5 p.c. to 20 p.c. of total Canadian exports.

TRADE OF CANADA WITH THE UNITED STATES AND OTHER FOREIGN COUNTRIES.
(Fiscal Years 1886, 1896, 1906, 1914, 1922, 1929, 1930 and 1931.)

Item and Fiscal Year.	Canadian Trade with—			Percentage of Total Trade with—		
	United States.	Other Foreign Countries.	Total Foreign Countries.	United States.	Other Foreign Countries.	Total Foreign Countries.
IMPORTS.	\$	\$	\$	p.c.	p.c.	p.c.
1886.....	42,818,651	11,756,920	54,575,571	44.6	12.2	56.8
1896.....	53,529,390	16,618,619	70,148,009	50.8	15.8	66.6
1906.....	169,256,452	30,694,394	199,950,846	59.6	10.9	70.5
1914.....	396,302,138	68,365,014	464,667,152	64.0	11.0	75.0
1922.....	515,958,196	82,736,883	598,695,079	69.0	11.0	80.0
1929.....	868,012,229	140,247,523	1,008,259,752	68.6	11.1	79.7
1930.....	847,442,037	148,127,841	995,569,878	67.9	11.8	79.7
1931.....	584,407,018	117,261,726	701,668,744	64.5	12.9	77.4
EXPORTS (Canadian).						
1886.....	34,284,490	3,515,148	37,799,638	44.1	4.5	48.6
1896.....	37,789,481	5,152,185	42,941,666	34.4	4.7	39.1
1906.....	83,546,306	13,516,428	97,062,734	35.5	5.8	41.3
1914.....	163,372,825	29,573,097	192,945,922	37.9	6.8	44.7
1922.....	292,588,643	101,816,627	394,405,270	39.5	13.8	53.3
1929.....	499,612,145	227,970,510	827,582,655	36.7	24.0	60.7
1930.....	515,049,763	225,558,271	740,608,034	46.0	20.0	66.0
1931.....	349,660,563	157,107,959	506,768,522	43.7	19.7	63.4

With further reference to the trade of Canada with countries other than the United Kingdom and the United States, attention is directed to Tables 10 to 36 (pp. 118-151) of the Condensed Preliminary Report on the Trade of Canada, 1931, published by the Dominion Bureau of Statistics and giving the trade of Canada in leading commodities with 81 British and foreign countries for the fiscal years 1930 and 1931.

Subsection 5.—Geographical Distribution of Canadian Trade by Continents and Countries.

Geographical Distribution of Canadian Trade by Continents.—During the fiscal year ended Mar. 31, 1931, values of exports to all continents were reduced as compared with the previous year. Canada again sold more goods to North America than to Europe, although the proportion to Europe increased, as it did also to Africa and to other North America (Newfoundland, St. Pierre-Miquelon and the West Indies), while the proportion to the United States and the other continents decreased. Imports from Africa increased but decreased from all other continents. North America was again the chief source of imports, providing 67 p.c. of the total. The proportion of imports supplied by Europe, other North America, South America, Asia and Africa increased, while the proportion from the United States and Oceania decreased. Summary statistics are given in the following table:—

TRADE OF CANADA, BY CONTINENTS, 1926, 1930 AND 1931.
(With proportion of Trade with each Continent.)

Continent.	Imports for Consumption.						Exports (Canadian).					
	Values (Million \$).			Percentages of Totals.			Values (Million \$).			Percentages of Totals.		
	1926.	1930.	1931.	1926.	1930.	1931.	1926.	1930.	1931.	1926.	1930.	1931.
Europe.....	223.4	284.9	224.2	24.1	22.8	24.7	648.5	407.7	309.2	49.3	36.5	38.7
United Kingdom.....	163.7	189.2	149.5	17.6	15.2	16.5	508.2	281.7	219.2	38.6	25.2	27.4
Other Europe.....	59.7	95.7	74.7	6.5	7.6	8.2	140.3	125.9	90.0	10.7	11.2	11.3
North America.....	644.7	871.4	607.8	69.5	69.8	67.1	516.2	561.2	395.4	39.2	50.0	49.4
United States.....	609.8	847.4	584.4	65.7	67.9	64.5	474.9	515.0	349.6	36.1	46.0	43.7
Other North America.....	34.9	24.0	23.4	3.8	1.9	2.6	41.3	46.2	45.8	3.1	4.1	5.7
South America.....	17.1	31.9	25.6	1.9	2.6	2.9	27.4	34.7	20.6	2.1	3.1	2.6
Asia.....	32.7	31.1	27.7	3.5	2.5	3.0	77.2	63.1	39.4	5.9	5.6	4.9
Oceania.....	8.7	24.5	14.4	0.9	1.9	1.6	32.6	36.1	20.0	2.5	3.2	2.5
Africa.....	0.8	4.5	6.9	0.1	0.4	0.7	13.3	17.6	15.0	1.0	1.6	1.9
Totals.....	927.4	1,248.3	906.6	100.0	100.0	100.0	1,315.2	1,120.3	799.6	100.0	100.0	100.0

Imports from Principal Countries.—The relative order of the four leading countries which supplied Canada with goods in the fiscal year ended Mar. 31, 1931, was unchanged from 1929 and 1930, although in every case the value shows a heavy decrease. The principal countries from which Canada increased her imports over the previous year were British South Africa (fruits, corn and sugar), Venezuela (petroleum), and China (nuts and peanut oil). With the depression in world trade, imports from most countries fell off, but disproportionately large reductions occurred in imports from New Zealand (butter), Peru (sugar and petroleum) and Colombia (petroleum). Over the nine-year period shown by comparison with the figures for 1922, Canadian imports from most of the principal countries have increased materially in spite of the current depression. The most striking increases have occurred in the cases of Germany, which has risen from 19th to 4th place with imports increasing from \$2,000,000 to \$16,000,000, of Argentina, New Zealand, China, Australia and British South Africa which have all had a rapidly expanding trade during the period, and of Colombia and Venezuela which have lately become important sources of petroleum. On the other hand, the diversion of imports of raw sugar and

other tropical products from Cuba and Santo Domingo to countries willing to make more favourable trade agreements with Canada, such as the British West Indies, British Africa and the Fiji islands, has resulted in Cuba dropping from 4th to 27th place, imports decreasing from \$13,000,000 to \$2,400,000, and Santo Domingo from 10th place has faded away almost completely as a source of Canadian imports.

CANADA'S IMPORTS FROM THIRTY-FIVE LEADING COUNTRIES, 1931.

NOTE.—Countries arranged in order of importance, 1931.

Rank.				Country.	Value of Imports.	Increase (+) or Decrease (—) 1931 Compared with—		Percentage of Imports.			
1922	1929	1930	1931			1922.		1922.	1931.		
						\$	\$	p. c.	p. c.		
1	1	1	1	United States.....	584,407,018	+	68,448,822	—	263,035,019	69.0	64.5
2	2	2	2	United Kingdom....	149,497,392	+	32,362,049	—	39,682,346	15.7	16.5
3	3	3	3	France.....	19,004,102	+	5,522,097	—	6,152,989	1.8	2.1
19	4	4	4	Germany.....	16,197,036	+	14,156,020	—	5,308,392	0.3	1.8
6	5	7	5	Japan.....	9,342,967	+	1,148,286	—	3,194,286	1.1	1.0
9	8	10	6	British India.....	8,426,716	+	3,146,859	—	606,024	0.7	0.9
12	7	6	7	Belgium.....	8,420,019	+	4,574,301	—	4,598,987	0.5	0.9
11	9	9	8	Netherlands.....	7,287,132	+	3,285,085	—	2,145,476	0.5	0.8
15	11	8	9	Argentina.....	6,739,697	+	4,384,597	—	3,492,630	0.3	0.7
22	6	5	10	New Zealand.....	6,671,252	+	4,887,752	—	9,611,467	0.2	0.7
5	10	12	11	Switzerland.....	5,484,463	—	3,187,145	—	1,830,377	1.2	0.6
28	19	15	12	Italy.....	5,048,957	+	3,661,587	+	85,263	0.2	0.6
35	12	13	13	Colombia.....	5,036,898	+	4,676,389	—	2,215,793	0.1	0.6
26	22	22	14	China.....	4,810,814	+	3,397,287	+	1,833,792	0.2	0.5
16	17	14	15	Jamaica.....	4,792,599	+	2,577,068	—	402,374	0.3	0.5
30	20	17	16	Australia.....	4,616,722	+	3,537,398	+	405,371	0.1	0.5
7	18	11	17	Peru.....	4,535,524	+	2,447,879	—	2,956,604	0.9	0.5
8	16	18	18	British Guiana.....	4,288,157	—	1,878,507	+	305,664	0.8	0.5
14	14	16	19	Barbados.....	4,264,508	+	1,269,949	—	410,650	0.4	0.5
44	46	37	20	British South Africa	3,329,528	+	3,201,790	+	2,505,503	—	0.4
36	22	19	21	Czechoslovakia.....	3,176,387	+	2,824,463	—	616,002	—	0.4
37	39	43	22	Venezuela.....	3,024,584	+	2,730,279	+	2,495,622	—	0.3
20	13	20	23	Fiji.....	2,807,355	+	841,175	—	869,249	0.3	0.3
17	25	24	24	Ceylon.....	2,708,845	+	521,616	+	108,422	0.3	0.3
29	28	34	25	Other British West Indies.....	2,571,905	+	1,346,880	+	1,370,280	0.2	0.3
27	26	26	26	Newfoundland.....	2,501,761	+	1,109,735	+	123,658	0.2	0.3
4	15	21	27	Cuba.....	2,408,647	—	10,633,921	—	1,101,580	1.7	0.3
23	21	25	28	Trinidad and Tobago.....	2,321,007	+	642,349	—	269,150	0.2	0.3
61	45	28	29	British East Africa.	2,082,125	+	2,075,015	+	99,882	—	0.2
39	27	27	30	Sweden.....	2,037,457	+	1,792,162	—	221,947	—	0.2
21	24	23	31	Spain.....	1,960,759	+	181,351	—	823,300	0.2	0.2
67	49	36	32	Russia.....	1,917,652	+	1,915,969	+	1,008,127	—	0.2
69	52	42	33	Dutch West Indies..	1,838,964	+	1,837,459	+	1,397,813	—	0.2
24	30	30	34	Brazil.....	1,349,124	—	146,121	—	338,583	0.2	0.1
58	32	32	35	British West Africa.	1,156,779	+	1,137,577	—	165,127	—	0.1
Totals, Above 35 Countries.....					896,066,589	+	164,901,430	—	338,308,334	97.7	98.8
Totals, Imports..					906,612,695	+	158,808,363	—	341,660,887	100.0	100.0
British Empire.....					204,943,951	+	55,834,698	—	47,759,753	19.9	22.6
Foreign Countries..					701,668,744	+	102,973,665	—	293,901,134	80.1	77.4

Exports to Principal Countries.—Canada's exports to most of the principal countries show a falling off in the fiscal year 1931 as compared with 1930, the contraction being due to a serious decline in commodity prices as well as reduced volume. Exceptions to the general rule occurred in the cases of Italy, due to large increases in the exports of wheat and flour, and of St. Pierre and Miquelon due to increased exports of alcoholic beverages. As a result Italy rose from 13th to 5th place and St. Pierre and Miquelon from 16th to 9th place among the nations as a market for Canada. The United States, the United Kingdom and Japan remained in that order as the leading markets. Germany dropped from 4th to 7th place, Argentina from 6th to 13th and China from 8th to 14th. Comparing the fiscal year 1931 with 1922, it will be noted that over the longer period Canada's exports to most countries have shown marked expansion in spite of the decline in commodity prices during

the interval. This expansion is greatest in the case of the United States due to the development of the pulp and paper industry and non-ferrous-metal mining and smelting in Canada during the past decade, resulting in much larger exports of pulp and paper and non-ferrous metals to the United States. Other countries to which Canada's exports have increased in both amount and percentage during the decade are Japan, Belgium, France, Germany, New Zealand, British South Africa, Argentina and China. On the other hand, exports to the United Kingdom, which has been displaced as our largest customer, have dropped both in value and percentage due to decreases in agricultural and animal products. Among other countries which took a smaller value and percentage of Canada's exports in the fiscal year 1931 than in 1922 may be mentioned: Australia, due to decreases in agricultural implements and automobiles; Cuba, Trinidad and Tobago, and British Guiana, due to decreases in agricultural and animal products such as potatoes, flour, fish, cheese and condensed milk.

CANADA'S DOMESTIC EXPORTS TO FORTY LEADING COUNTRIES, 1931.

NOTE.—Countries arranged in order of importance, 1931.

Rank.				Country.	Value of Exports.	Increase (+) or Decrease (—) 1931 Compared with—		Per cent of Exports.	
1922	1929	1930	1931			1922.		1922.	1931.
						1922.	1930.	p.c.	p.c.
2	1	2	1	United States.....	\$ 349,570,563 +	\$ 56,981,920 —	\$ 165,479,200	39.5	43.7
1	2	2	2	United Kingdom...	219,246,499 —	80,115,176 ¹ —	62,499,466	40.4	27.4
4	5	3	3	Japan.....	18,958,965 +	4,127,455 —	11,516,616	2.0	2.4
5	6	4	4	Belgium.....	14,962,044 +	2,602,744 —	6,730,814	1.7	1.9
3	8	13	5	Italy.....	14,552,319 —	783,499 +	3,165,025	2.1	1.8
9	11	9	6	France.....	13,285,758 +	5,077,530 —	3,221,253	1.1	1.7
12	3	4	7	Germany.....	12,942,236 —	8,432,689 —	12,401,425	0.6	1.6
13	10	7	8	New Zealand.....	12,688,475 +	8,559,944 —	6,478,013	0.6	1.6
40	31	16	9	St. Pierre and Miquelon.....	11,004,479 +	10,575,289 +	5,145,228	0.1	1.4
8	16	12	10	Newfoundland.....	10,658,637 —	1,340,998 —	1,519,755	1.3	1.3
7	4	11	11	Netherlands.....	10,477,553 +	894,629 —	5,466,916	1.3	1.3
16	13	14	12	British South Africa.....	10,286,940 —	6,396,550 —	630,702	0.5	1.3
17	12	6	13	Argentina.....	10,007,794 +	6,774,371 —	9,198,952	0.4	1.3
23	7	8	14	China.....	9,122,190 +	7,221,563 —	7,405,769	0.3	1.1
25	15	15	15	British India.....	6,957,050 +	5,319,905 —	2,159,201	0.2	0.9
6	9	10	16	Australia.....	6,788,708 —	3,889,892 —	9,534,063	1.4	0.9
10	14	17	17	Greece.....	5,642,245 +	395,210 +	255,178	0.7	0.7
24	24	20	18	Other British West Indies.....	4,273,905 +	2,444,107 —	293,734	0.2	0.5
21	22	18	19	Jamaica.....	3,749,394 +	1,535,230 —	1,389,363	0.3	0.5
20	18	24	20	Denmark.....	3,604,492 +	1,361,311 —	504,212	0.3	0.5
15	17	27	21	Norway.....	3,305,334 —	608,038 —	369,651	0.5	0.4
11	26	25	22	Trinidad and Tobago.....	3,286,070 —	1,262,465 —	712,127	0.6	0.4
14	25	23	23	Cuba.....	2,868,103 —	1,106,329 —	1,377,473	0.5	0.4
22	19	22	24	Brazil.....	2,799,567 +	797,118 —	1,492,726	0.3	0.4
1	27	28	25	Irish Free State.....	2,764,489 —	1 +	52,945	1	0.3
31	40	30	26	Bermuda.....	2,492,260 +	1,503,147 +	204,980	0.1	0.3
29	23	19	27	Sweden.....	2,447,205 —	1,227,009 —	2,230,832	0.2	0.3
30	32	29	28	Mexico.....	2,035,576 +	837,979 —	547,864	0.2	0.3
26	30	33	29	Hong Kong.....	1,961,854 —	550,155 —	38,270	0.2	0.2
53	48	46	30	British Honduras.....	1,742,464 +	1,591,500 +	849,946	—	0.2
65	43	34	31	Peru.....	1,579,294 —	1,507,611 —	215,709	—	0.2
36	36	39	32	Finland.....	1,388,556 +	784,545 +	56,904	0.1	0.2
33	21	21	33	Spain.....	1,297,080 +	480,103 —	3,206,151	0.1	0.2
56	37	37	34	Colombia.....	1,191,940 +	1,064,741 —	451,108	—	0.1
19	35	36	35	British Guiana.....	1,139,915 —	1,158,190 —	521,417	0.3	0.1
27	39	40	36	Barbados.....	1,118,603 —	259,381 —	205,966	0.2	0.1
48	47	42	37	Portuguese Africa.....	1,109,735 +	934,706 —	100,381	—	0.1
38	38	41	38	Venezuela.....	1,058,223 +	545,724 —	228,720	0.1	0.1
42	34	31	39	Chile.....	1,057,410 +	766,732 —	1,222,593	—	0.1
51	42	35	40	British East Africa.....	968,898 +	800,695 —	738,269	—	0.1
Totals, Above 40 Countries.....					786,392,822 +	57,014,719 —	310,358,505	98.6	98.4
Totals, Exports (Domestic).....					799,742,667 +	59,501,987 —	320,515,635	100.0	100.0
British Empire.....					292,884,145 —	52,951,265 —	86,766,123	46.7	36.6
Foreign Countries.....					506,858,522 +	112,453,252 —	233,929,512	53.3	63.4

¹ The United Kingdom included the Irish Free State in 1922.

Statistical Tables of Trade by Countries.—Statistics showing the course of import and export trade during the latest five fiscal years, by countries with which Canada carries on trade, will be found in Tables 19 (imports) and 20 (exports). Table 21 shows by countries the values of goods imported into and exported from Canada *via* the United States for the latest two fiscal years.

A series of tables showing Canadian trade in principal commodities with the leading countries with which she trades (other than the United Kingdom and the United States, which are exhaustively dealt with in Tables 12 and 13) followed Table 21 in previous Year Books. These tables have been omitted in the present edition to economize space. They will be found in the Condensed Preliminary Report on the Trade of Canada, 1931, (pp. 118-151), while historical tables showing our trade with these and other countries in each year since Confederation will be found on pp. 15-21 of the Annual Report of the Trade of Canada for 1931, both published by, and obtainable from, the Dominion Bureau of Statistics.

Subsection 6.—Principal Commodities Imported and Exported.

While Canadian imports and exports in all the principal groups show a decrease in value in the fiscal year 1931 as compared with 1930, imports were still greater than exports in the textile, iron, non-metallic mineral, chemical and miscellaneous groups, while exports predominated in the agricultural, animal, wood and non-ferrous metal groups. While all imports in 1931 decreased by 27.4 p.c. from those of 1930, imports of iron products fell by 38.5 p.c., textiles by 29.4 p.c. and chemicals by only 10.7 p.c. In domestic exports, while the average decline from the previous fiscal year was 28.6 p.c., non-ferrous metals dropped 38.0 p.c., animal products 37 p.c., agricultural products 24.0 p.c. and wood and paper products 20.4 p.c.

For further information respecting Canada's trade in principal commodities with all countries, fiscal years 1928-1931, see Table 13 for imports and Table 12 for exports.

Canada's Principal Imports.—The table which follows shows the principal commodities imported into Canada in the fiscal years 1890, 1900, 1910, 1920, 1930 and 1931, the commodities being arranged in order of importance in 1931. The only commodities in which the values of imports in 1931 were greater than in 1930 were tea, settlers' effects, aluminium (chiefly aluminium ores), fertilizers, refrigerators and artificial silk yarns, although a few other commodities (notably vegetable oils, raw silk, raw coffee, manila and sisal, raw wool and noils, tops, etc.) were imported in slightly increased quantities but at less cost. Decreases in both quantity and value occurred in the great majority of commodities imported. The greatest decreases were: machinery (\$25,000,000); automobiles (\$17,000,000); automobile parts (\$16,000,000); farm implements (\$14,000,000); crude petroleum (\$12,000,000); electric apparatus (\$11,000,000); raw cotton (\$10,000,000); and butter (\$10,000,000).

During the period of 40 years covered by the table, great changes have occurred in the character of the leading imports, due to developments both in the industrial organization of the country and the goods consumed by the people. Thus many present-day leading imports such as crude petroleum, automobiles and parts, artificial silk, electric apparatus, aluminium, were in 1890 either non-existent or formed very insignificant items of trade. Imports of farm implements in 1890 amounted to only \$161,000, but due to the tremendous agricultural expansion in Canada since that time as well as to increasing mechanization of agricultural operations, imports of farm implements have grown to a large item in spite of the wide development of

their manufacture within the country. On the other hand, a number of the leading imports of 1890, such as woollen goods and raw wool, sugar and products, cotton goods and raw cotton, tea, grain products and meats have become relatively much less important as imports. Then again there were certain leading imports in 1890, such as coal, rolling-mill products, machinery and fruits, which still remain among the chief items of imports owing to the absence of coal and high grade iron ore deposits in the central portion of Canada where population and industry are chiefly concentrated, and to the demand for fruits which cannot be grown in Canada.

It is estimated that about one-third of the imports during recent years have been for use in the various industries of the Dominion. The decrease in imports of such commodities in the fiscal year 1931 was about proportional to the decrease in total imports. Of the leading 62 commodities imported in the fiscal year 1931 for further manufacture in Canada, 51.8 p.c. by value was raw materials, 22.8 p.c. partly manufactured and 25.4 p.c. was classed as fully or chiefly manufactured goods such as automobile parts and engines, rolling-mill products, etc.

CANADA'S LEADING IMPORTS, FISCAL YEARS, 1890, 1900, 1910, 1920, 1930 AND 1931.

(Commodities arranged in order of importance, 1931.)

Commodity.	1890.	1900.	1910.	1920.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Coal.....	8,013,156	11,012,223	27,516,678	60,072,629	56,812,418	52,231,209
Machinery.....	1,877,551	5,159,952	14,690,873	36,716,791	69,117,528	44,207,282
Rolling-mill products.....	5,645,704	11,905,937	15,692,051	39,985,746	61,894,114	40,568,871
Crude petroleum.....	-	23,244	1,189,071	20,306,693	50,951,202	38,578,486
Alcoholic beverages.....	1,695,161	1,938,112	4,459,566	9,135,636	45,026,487	35,434,637
Fruits.....	2,400,851	3,133,407	8,316,462	23,463,270	34,277,882	29,498,549
Electric apparatus.....	317,715	810,900	3,688,538	15,550,254	37,611,263	26,804,362
Sugar and products.....	6,452,654	8,610,845	14,962,770	73,618,354	27,987,156	25,161,230
Woollen goods, including car- pets.....	10,900,600	9,427,575	20,767,010	45,545,127	32,632,927	23,281,810
Refined petroleum.....	690,283	830,025	2,326,681	10,566,692	25,180,476	21,759,471
Cotton goods.....	3,792,584	6,399,705	17,928,093	51,435,017	28,554,725	19,861,983
Automobile parts.....	-	-	269,586	12,674,823	35,746,929	19,597,213
Automobiles.....	-	-	1,732,215	15,035,545	34,464,666	17,271,890
Farm implements.....	161,277	2,148,867	2,661,207	14,578,106	30,075,453	16,495,217
Books and printed matter.....	1,404,583	1,588,432	4,127,179	11,228,018	18,130,779	16,136,501
Grain and products.....	3,034,049	8,298,884	7,806,665	9,086,073	25,082,671	13,339,358
Tea.....	3,073,643	3,604,027	5,347,854	8,336,163	10,684,379	13,048,877
Silk goods.....	2,654,503	3,880,535	5,690,829	31,341,944	19,606,589	12,190,105
Paper.....	1,208,683	1,378,749	4,567,810	9,949,574	14,764,904	12,082,877
Raw cotton.....	3,539,249	4,229,198	9,384,801	33,854,457	21,682,463	12,080,188
Settlers' effects.....	1,810,217	3,065,410	10,273,428	10,181,034	11,181,203	11,489,320
Vegetable oil.....	612,671	826,882	1,862,265	15,973,417	12,244,151	10,870,700
Rubber and products.....	1,512,427	2,942,044	6,151,157	18,059,435	20,025,316	10,564,770
Flax, hemp and jute.....	1,416,217	3,551,037	5,340,312	15,923,836	14,716,510	10,472,111
Engines and boilers.....	188,759	778,364	2,019,558	12,997,757	15,146,437	10,033,960
Wood, unmanufactured.....	1,444,727	3,775,240	8,324,585	14,112,391	15,348,150	9,808,811
Artificial silk goods.....	-	-	-	477,754 ¹	11,740,460	9,760,577
Clay and products.....	948,876	1,593,255	3,418,844	6,371,567	12,556,769	9,432,131
Leather.....	1,173,777	1,879,333	4,202,934	17,102,702	11,537,331	9,171,681
Vegetables.....	337,859	625,749	1,751,265	5,722,600	11,020,339	8,934,754
Furs.....	1,058,001	2,106,441	5,768,075	12,877,520	11,953,949	8,783,228
Wood, manufactured.....	1,355,230	824,195	3,085,079	7,893,284	12,707,244	8,013,841
Glass and glassware.....	1,268,314	1,658,694	2,932,104	6,926,459	10,453,706	7,875,296
Copper and products.....	484,189	1,271,270	3,488,260	8,568,035	14,898,632	7,070,751
Raw silk.....	193,529	277,708	393,011	3,090,840	8,260,968	6,695,851
Stone and products.....	862,037	1,029,711	1,773,953	3,087,792	8,702,988	6,356,001
Aluminium.....	159	12,543	794,490	2,747,385	6,058,864	6,135,551
Meats.....	1,632,143	1,371,184	2,427,901	22,100,333	7,599,473	5,584,001
Tobacco, raw.....	1,344,985	1,508,359	3,229,239	13,604,757	6,471,626	5,488,991
Coke.....	155,513	506,839	1,695,603	2,476,450	6,403,354	5,245,441
Fertilizers.....	14,444	88,974	5,395,423	1,796,752	5,033,592	5,205,331
Butter.....	62,212	290,220	92,934	176,994	14,471,688	4,786,551
Brass and products.....	554,545	851,606	2,228,215	4,531,015	7,000,455	4,768,771
Hides and skins, raw.....	1,703,093	4,214,012	8,235,819	22,654,661	8,402,075	4,704,901
Woollen yarn.....	117,729	402,328	1,671,765	4,445,240	5,870,353	4,405,901
Paints and varnishes.....	672,885	1,012,535	1,376,023	3,821,880	5,957,078	4,368,001
Coffee, green.....	591,158	491,148	1,194,061	4,711,079	5,924,635	4,365,601

¹ Imports for 1924, the first year recorded.

CANADA'S LEADING IMPORTS, FISCAL YEARS, 1890, 1900, 1910, 1920, 1930 AND 1931—
concluded.

(Commodities arranged in order of importance, 1931.)

Commodity.	1890.	1900.	1910.	1920.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Scientific and educational equipment.....	200,495	364,198	1,118,437	3,282,803	4,956,519	4,079,851
Nuts (edible).....	231,449	400,441	1,237,292	5,889,573	5,095,109	3,998,144
Drugs and medicines.....	513,331	481,359	962,083	3,402,932	3,808,721	3,802,872
Tubes and pipes (iron).....	484,008	1,122,987	2,358,848	4,160,378	5,948,162	3,528,076
Hardware and cutlery.....	1,250,369	1,434,209	1,937,647	4,210,142	4,950,119	3,404,989
Seeds.....	478,397	1,916,994	1,167,321	4,210,782	5,061,255	3,395,757
Soda and sodium compounds	329,084	624,873	785,524	2,982,371	4,410,621	3,324,615
Cotton yarn.....	17,879	321,348	767,760	4,078,510	3,827,867	3,321,318
Dyeing and tanning materials.....	484,217	711,508	1,412,099	5,623,720	3,548,656	3,285,908
Iron ore.....	551	282,191	3,345,550	4,601,716	5,020,921	3,266,402
Sulphur.....	44,276	215,433	430,632	1,296,458	3,823,245	3,102,740
Manila and sisal fibre.....	—	—	1,548,457	5,195,812	3,822,613	3,068,576
Raw wool.....	1,729,058	1,574,834	1,587,175	7,672,211	4,306,945	3,065,691
Noils and tops.....	12,100	151,510	599,446	5,830,957	3,833,801	2,794,239
Fish.....	899,683	1,060,708	1,630,744	3,491,678	3,474,921	2,671,559
Cocoa and chocolate.....	118,569	286,363	1,130,335	7,626,745	3,651,425	2,641,511
Clocks and watches.....	773,538	698,378	1,459,617	3,126,267	3,495,659	2,551,826
Castings and forgings.....	268,463	538,612	1,027,460	6,519,188	4,497,406	2,476,436
Wire, iron.....	387,490	1,844,788	3,530,226	5,843,623	3,658,798	2,436,667
Refrigerators.....	—	—	22,626	33,886	1,913,591	2,377,670
Gums and resins.....	159,508	287,276	2,256,307	4,987,716	3,431,591	2,350,076
Animals, living.....	823,440	1,160,151	3,118,217	2,570,377	2,802,754	2,251,160
Tools.....	427,305	825,541	891,820	2,050,286	3,192,449	2,078,213
Hats and caps.....	1,258,409	1,637,422	3,420,609	4,216,333	2,908,340	2,038,711
Toys and dolls.....	172,782	199,305	497,210	1,534,728	2,691,408	1,981,455
Diamonds, unset.....	110,480	451,792	1,902,710	4,470,846	3,193,871	1,797,225
Nickel plated ware.....	13,578	18,843	573,591	1,630,047	3,022,935	1,778,039
Artificial silk yarns.....	—	—	160,586	1,436,738	1,678,450	1,760,829
Jewellery.....	444,137	578,963	1,337,431	1,242,010	2,435,869	1,657,303
Musical instruments.....	434,814	390,407	1,207,592	4,329,093	3,130,873	1,623,037

¹ Imports for 1913, the first year recorded.

Canada's Principal Exports.—In the table which follows giving Canada's leading domestic exports for the fiscal years 1890, 1900, 1910, 1920, 1930 and 1931, the pronounced decrease in exports in 1931 as compared with 1930 is clearly shown. This decrease, which altogether amounted to 28.6 p.c., was more than half accounted for by the reduced prices received for exported goods. In other words the decrease resulting from lower prices amounted to 15.3 p.c., while that due to reduced volume of exports was 13.3 p.c. In the case of wheat, the leading export, there was a decrease in value of \$38,000,000 in spite of an increase of 40,000,000 bushels in the quantity. Other large reductions in the value of exports occurred in: automobiles (\$19,000,000); newsprint paper (\$18,000,000); planks and boards (\$18,000,000); raw gold (\$17,000,000); copper ore and blister (\$16,000,000); wheat flour (\$13,000,000); farm implements (\$11,000,000); cattle (\$10,000,000); wood pulp (\$10,000,000); barley (\$9,000,000); meats (\$9,000,000) and aluminium in bars (\$8,000,000). Small increases occurred in the value of some exports, but such commodities were in all cases among the minor exports such as platinum concentrates, electrical energy, bran and shorts, oatmeal, cereal foods, etc.

In the use of the table it should be remembered that the fiscal year 1920 represents the abnormal conditions existing immediately after the close of the war with the great inflation of prices which was nearing its peak in that year. Thus it is

estimated that the total value of exports in 1920 was about 180 p.c. of what it would have been at the prices prevailing in 1931, or, in other words, that the domestic exports of 1920 on a quantity basis amounted to only about 86 p.c. of the actual total in 1931, in spite of the keen demand in the earlier year, due to the disruption of production in Europe resulting from the war, for goods such as Canada had to sell. The greater volume of exports even in a year of depression such as 1931 over those of 1920 is conclusive evidence of the permanency of the expansion that has taken place in Canada's external trade during the period since the war. Probably when the figures for the fiscal year 1932 are completed they will show a further decline from 1931, but the current year has been distinctly subnormal. Chief among the industries accounting for this expansion of exports in the post-war period may be mentioned the pulp and paper industry, non-ferrous-metal mining, smelting and manufacturing, automobiles, rubber goods and wheat growing. On the other hand, reductions which probably represent reduced quantities have occurred in the exports of animal, dairy, fish, sawmill and sugar products.

Over the longer period of 40 years covered by the table, the changes in Canada's exports have been very great, both in volume and in the relative importance of commodities. Exports of Canadian produce, which in 1890 amounted to \$85,000,000, by 1931 had grown to \$800,000,000, although price levels were somewhat higher in the later year. The great agricultural settlement of the Canadian West had scarcely begun in 1890. The leading exports then were sawmill and timber products, cheese, fish, cattle, barley, coal and furs, indicating the large dependence of Canadian production at that time upon the eastern forests and mixed farming. The four leading exports in 1931 were very unimportant in 1890. The year 1910 is the first year in this table in which wheat appears as a leading export. The rise of the great pulp and paper industry to a leading position has been still more recent, and similarly with regard to the production of non-ferrous metals, automobiles and rubber tires. On the other hand, exports of the products of mixed-farming operations, such as cattle, meats, hides, cheese and butter, while showing wide fluctuations, have not expanded proportionately, and in some cases were little or no greater in 1931 than in 1890. In the case of cattle there was an actual reduction of almost 60 p.c.

CANADA'S LEADING DOMESTIC EXPORTS, FISCAL YEARS 1890, 1900, 1910, 1920, 1930 AND 1931.

(Commodities arranged in order of importance, 1931.)

Commodity.	1890.	1900.	1910.	1920.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Wheat.....	388,861	11,995,488	52,609,351	185,044,806	215,753,475	177,419,769
Newsprint paper.....	—	—	2,612,243	53,640,122	145,610,519	127,352,706
Wood pulp.....	168,180	1,816,016	5,204,597	41,383,482	44,704,958	35,061,689
Wheat flour.....	521,383	2,791,885	14,859,854	94,262,922	45,457,195	32,876,234
Planks and boards.....	17,637,308	22,015,990	33,100,387	75,216,193	49,446,887	31,598,202
Fish.....	8,099,674	10,564,688	15,179,015	40,687,172	34,767,739	27,898,851
Copper ore and blister.....	133,251	1,387,388	6,023,925	11,871,039	37,735,413	21,247,512
Whiskey.....	25,383	396,671	1,010,657	1,504,132	25,856,136	18,722,198
Nickel.....	240,499	1,040,498	3,320,054	9,039,221	25,034,975	18,246,375
Gold, raw.....	657,022	14,148,543	6,016,126	5,974,334	34,375,003	17,832,608
Automobiles.....	—	—	405,011	14,883,607	35,307,645	15,879,240
Furs, raw.....	1,874,327	2,264,580	3,749,005	20,628,109	18,706,311	14,936,813
Cheese.....	9,372,212	19,856,324	21,607,692	36,336,863	18,278,004	12,989,726
Pulpwood.....	80,005	902,772	6,076,628	8,454,803	13,860,209	12,040,484
Rubber tires.....	—	—	—	7,395,172	18,153,225	11,769,078
Silver.....	201,615	1,354,053	15,009,937	14,255,601	11,569,855	8,927,216

¹For 1891, the first year recorded.

CANADA'S LEADING DOMESTIC EXPORTS, FISCAL YEARS 1890, 1900, 1910, 1920, 1930 AND 1931—concluded.

(Commodities arranged in order of importance, 1931.)

Commodity.	1890.	1900.	1910.	1920.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Vegetables (chiefly potatoes).....	597,074	503,993	1,534,228	11,656,483	11,240,747	8,695,725
Fruits (chiefly apples).....	1,073,890	3,305,662	5,492,197	8,347,549	9,593,484	8,403,141
Asbestos, raw.....	444,159	490,909	1,886,613	8,767,856	12,074,065	7,719,974
Farm implements.....	367,198	1,692,155	4,319,385	11,614,400	18,396,688	7,188,078
Lead.....	2,000	688,691	529,422	1,193,144	10,637,887	7,044,520
Rubber footwear.....	—	—	129,618	1,750,967	9,986,392	6,176,457
Meats.....	895,757	13,615,621	8,013,680	96,161,234	15,030,671	6,104,976
Zinc.....	—	—	—	950,082	8,366,712	5,988,220
Aluminium in bars, etc.....	—	—	1,202,723	5,680,871	13,828,010	5,791,984
Settlers' effects.....	813,001	1,095,536	2,274,005	7,631,498	6,304,199	5,604,055
Machinery.....	143,815	446,391	924,510	6,416,591	7,154,706	5,542,753
Stone and products.....	949,158	575,749	955,636	3,531,916	6,904,442	5,179,832
Electrical energy.....	—	—	—	4,590,818 ²	4,028,154	4,453,280
Films.....	—	—	7,746	1,486,079	4,790,619	4,250,536
Leather, unmanufactured.....	727,087	1,535,440	1,296,480	11,742,268	6,496,951	4,077,664
Fertilizers.....	4,291	51,410	371,315	6,694,037	7,990,313	3,698,774
Poles (wood).....	92,326	48,872	56,177	209,286	3,917,536	3,610,531
Shingles (wood).....	340,872	1,131,506	2,331,443	10,848,602	6,704,494	3,489,164
Hides and skins, raw.....	506,402	1,396,907	5,508,185	19,762,646	7,730,914	3,352,967
Sugar and products.....	18,101	100,108	153,357	30,695,005	4,798,712	3,188,138
Milk, condensed.....	—	—	541,372	8,517,771	3,262,101	2,984,456
Coal.....	2,447,936	4,599,602	5,013,221	13,183,666	3,998,692	2,976,426
Bran, shorts and middlings.....	86,225	145,206	1,842,620	2,983,843	2,582,484	2,962,696
Soda and sodium compounds.....	—	—	—	1,491,018 ³	4,208,518	2,870,365
Seeds (chiefly flaxseed).....	182,200	322,652	4,602,797	9,915,391	3,237,744	2,819,096
Logs.....	682,572	760,416	999,681	1,819,083	3,677,917	2,807,168
Cattle.....	6,949,417	8,704,523	10,792,156	46,064,631	13,119,462	2,800,198
Oatmeal and rolled oats.....	254,657	474,991	1,123,861	4,283,772	2,440,968	2,523,868
Cereal foods.....	—	—	1,689,648	1,087,901	2,431,137	2,492,467
Milk and cream, fresh.....	—	—	—	1,699,090	5,379,174	2,408,663
Petroleum products.....	15,812	1,653	1,155	1,230,237	2,527,178	2,312,034
Timber, square.....	4,353,870	2,013,746	934,723	2,148,162	4,235,309	2,253,698
Pigs, ingots, etc. (iron).....	—	137,651	223,183	6,595,688	4,727,137	2,039,933
Electric apparatus.....	—	7,460 ⁴	27,743	424,476	2,521,045	2,009,389
Paper board.....	—	—	—	4,568,066	2,506,496	2,002,946
Acids.....	5,545	67	—	901,397	5,096,529	1,881,156
Platinum concentrates, etc.....	—	120	61,717	39,058	357,748	1,730,661
Tubes and pipe (iron).....	—	—	—	2,325,369	2,202,769	1,652,280
Hay.....	1,068,554	1,414,109	1,805,849	4,087,670	2,007,944	1,590,657
Tobacco, raw.....	234	3,661	76,564	130,264	1,504,264	1,505,594
Binder twine.....	—	—	787,251	5,530,908	1,502,421	1,502,839
Hardware and cutlery.....	96,917	325,164	100,085	7,730,826	1,743,096	1,482,633
Wrapping paper.....	—	—	9,098	2,917,197	1,655,568	1,416,482
Laths (wood).....	392,500	749,301	1,882,950	3,668,511	3,095,417	1,269,274
Automobile parts.....	—	—	—	3,097,466	2,298,742	1,250,043
Aluminium manufactures.....	—	—	6,008	64,364	2,107,390	1,180,896
Barley.....	4,600,409	1,010,425	1,107,732	20,206,972	10,388,735	1,169,403
Rolling-mill products.....	—	—	—	5,071,221	1,681,814	1,148,608
Oats.....	256,156	2,143,179	1,566,612	9,349,455	4,055,855	1,146,266
Brass.....	—	—	—	1,644,157	2,332,962	1,133,581
Butter.....	340,131	5,122,156	222,927	9,844,359	543,851	389,419
Ale, beer and porter.....	10,347	6,272	2,687	145,077	1,995,990	337,210

²For 1927, the first year in which value was recorded. The amount generated for export in millions of kilowatt hours was 538 in the fiscal year 1911; 950 in 1920; and 1,497 in 1930. ³For 1922, the first year separately recorded. ⁴For 1903, the first year separately recorded.

Subsection 7.—Trade in Raw and Manufactured Products.

Relation Between Trade in Raw and Manufactured Products.—The industrial development of a country is indicated by the character of the goods it imports and exports. In the early years of Canada's development the imports were made up chiefly of manufactured products and the exports of raw and semi-manufactured products. Since the opening of the twentieth century this has been

almost reversed, a large percentage of the imports consisting of raw and semi-manufactured products for use in Canadian manufacturing industries, and the exports consisting to a considerable degree of products which have undergone some process of manufacture. Thus, the imports of partly and fully manufactured goods increased from \$129,693,000 to \$690,106,000 between 1900 and 1931, while exports of such goods increased during the same period from \$98,906,000 to \$494,562,000. Since the opening of the present century Canada has passed through much the same stages of development in her economic life as did the United States during the last quarter of the nineteenth century. Though Canada has not gone so far as the United States in increasing exports of manufactured goods but curtailing imports, while curtailing exports of raw materials but increasing imports, she has made considerable progress in this regard since 1914 (the last pre-war fiscal year). In 1930 and 1931 the rapid decline in commodity prices which has affected raw materials so much more than manufactured goods has tended to increase the percentages of both imports and exports of manufactures from what otherwise would have been recorded.

STATEMENT SHOWING PROPORTION OF RAW MATERIALS AND PARTLY AND FULLY MANUFACTURED GOODS IMPORTED INTO AND EXPORTED FROM CANADA AND THE UNITED STATES, 1900, 1914 AND 1920-31.

Fiscal Year.	Raw Materials.				Partly Manufactured Goods.				Fully Manufactured Goods.			
	Imports.		Exports.		Imports.		Exports.		Imports.		Exports.	
	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1900.....	24.9	44.0	41.5	40.2	10.6	15.8	7.7	11.2	64.5	40.2	40.8	48.6
1914.....	21.8	46.5	63.2	39.9	9.3	16.9	10.1	16.1	68.8	36.6	26.7	44.0
1920.....	27.5	52.8	35.7	32.6	13.2	15.3	15.1	12.5	59.3	31.9	49.2	54.9
1921.....	24.9	41.1	44.2	35.5	11.7	14.8	16.6	10.3	63.5	44.1	39.2	54.2
1922.....	28.9	46.4	44.5	39.1	9.6	15.6	14.5	11.1	61.5	38.0	41.0	49.8
1923.....	28.4	48.3	44.7	36.3	9.7	18.8	16.2	12.5	61.9	32.9	39.1	51.2
1924.....	28.4	44.6	43.4	35.7	11.2	18.5	16.8	14.1	60.4	36.9	39.8	50.2
1925.....	27.7	49.8	44.7	39.4	10.8	18.4	15.1	13.5	61.5	31.8	40.2	47.1
1926.....	27.6	54.5	47.1	33.4	10.0	17.8	14.4	13.6	62.4	27.7	38.5	53.0
1927.....	25.6	51.1	46.2	35.0	10.1	17.8	14.6	14.1	64.3	31.1	39.2	50.9
1928.....	25.6	50.3	47.2	32.3	9.6	18.0	15.4	14.9	64.8	31.7	37.4	52.8
1929.....	23.0	47.9	48.5	29.6	8.0	19.8	14.3	13.8	69.0	32.3	37.2	56.6
1930.....	23.1	46.5	38.3	27.0	7.7	20.4	19.1	13.8	69.2	33.1	42.6	59.2
1931.....	23.9	45.8	38.2	29.1	7.6	18.7	17.8	13.3	68.5	35.5	44.0	57.6

The table on p. 411 shows how Canada's imports and exports, analysed into the three categories of raw materials, partly manufactured goods, and fully or chiefly manufactured goods, are distributed among the continents and leading countries of the world as well as the United Kingdom, other British Empire countries, the United States and other foreign countries. This latter analysis clearly demonstrates that the imports into Canada from the British Empire, except the United Kingdom, consist chiefly of raw and semi-manufactured products, while the exports are made up mainly of fully manufactured products.

In trade with industrialized continents such as Europe and Asia, Canadian imports are largely manufactured goods and exports raw materials or only partly manufactured, while in trade with South America, Oceania, Africa and North America (if the United States be excluded) the situation is the reverse.

See also Table 15 of this chapter on this subject.

CANADA'S IMPORTS AND EXPORTS BY CONTINENTS AND LEADING COUNTRIES
ACCORDING TO DEGREE OF MANUFACTURE, YEAR ENDED MAR. 31, 1930.

NOTE.—Values in millions of dollars. Totals for continents include trade with other countries than those specified.

Continent and Country.	Imports.						Exports (Domestic).					
	Raw Materials.		Partly Manufactured.		Fully Manufactured.		Raw Materials.		Partly Manufactured.		Fully Manufactured.	
	Value.	Per cent of Total.	Value.	Per cent of Total.	Value.	Per cent of Total.	Value.	Per cent of Total.	Value.	Per cent of Total.	Value.	Per cent of Total.
	\$	p.c.	\$	p.c.	\$	p.c.	\$	p.c.	\$	p.c.	\$	p.c.
EUROPE.												
Belgium.....	0.5	4.2	0.7	5.6	11.7	90.2	17.6	81.3	1.8	8.3	2.3	10.4
France.....	0.5	1.8	0.7	2.9	24.0	95.3	10.0	60.3	3.3	20.0	3.2	19.7
Germany.....	0.8	3.8	1.8	8.4	18.9	87.8	12.5	49.2	6.2	24.6	6.6	26.2
Italy.....	0.9	17.3	0.1	2.6	4.0	80.1	8.0	69.8	1.2	10.3	2.3	19.9
Netherlands.....	1.6	17.0	0.3	3.6	7.5	79.4	9.8	61.5	3.7	23.0	2.5	15.5
Switzerland.....	0.0	0.3	0.0	—	7.3	99.7	—	0.9	0.6	49.9	0.6	49.2
United Kingdom.....	11.3	5.9	8.6	4.6	169.3	89.5	175.8	62.4	22.4	7.9	83.6	29.7
Totals, Europe.....	17.7	6.2	12.7	4.5	254.3	89.3	246.1	60.3	40.4	9.9	121.2	29.8
N. AMERICA.												
British West Indies.....	4.3	31.1	7.4	54.0	2.0	14.9	0.4	2.3	0.6	3.7	14.1	94.0
Cuba.....	0.8	23.7	1.4	40.4	1.3	35.9	2.1	50.2	0.2	4.4	1.9	45.4
Mexico.....	0.7	95.5	0.0	3.9	0.0	0.6	0.0	0.4	0.0	0.8	2.6	98.8
Newfoundland.....	1.3	56.5	0.0	0.6	1.0	42.9	3.2	25.9	0.3	2.4	8.7	71.7
St. Pierre-Miquelon.....	0.0	6.2	—	—	0.1	93.8	0.2	2.7	0.1	1.0	5.6	96.3
United States.....	225.2	26.6	57.0	6.7	565.3	66.7	160.3	31.1	144.0	28.0	210.8	40.9
Totals, N. America....	233.5	26.8	68.0	7.8	569.3	65.4	167.0	29.7	145.4	25.9	248.9	44.4
S. AMERICA.												
Argentina.....	9.4	92.0	0.0	0.1	0.8	7.9	0.0	0.2	0.6	2.9	18.6	96.9
Brazil.....	1.7	99.0	—	—	0.0	1.0	0.0	—	0.1	1.7	4.2	98.3
British Guiana.....	0.1	2.3	3.8	95.0	0.1	2.7	0.1	5.3	0.1	3.2	1.5	91.5
Colombia.....	7.3	100.0	—	—	0.0	—	0.6	36.3	0.0	1.0	1.0	62.7
Peru.....	6.3	84.4	1.2	15.6	—	—	0.2	13.3	0.0	1.1	1.5	85.6
Totals, S. America....	25.4	79.4	5.6	17.6	0.9	3.0	1.1	3.1	0.8	2.4	32.7	94.5
ASIA.												
British India.....	0.5	5.9	0.1	0.7	8.4	93.4	0.0	0.1	3.3	36.5	5.8	63.4
China.....	0.8	26.5	0.5	17.2	1.7	56.3	2.3	13.9	4.9	29.8	9.3	56.3
Japan.....	3.8	30.6	0.1	1.1	8.6	68.3	10.7	35.0	15.4	50.5	4.4	14.5
Totals, Asia.....	7.1	23.0	1.2	3.9	22.8	73.1	13.0	20.7	23.7	37.6	26.3	41.7
OCEANIA.												
Australia.....	1.3	31.2	0.9	21.6	2.0	47.2	0.4	2.6	1.6	9.6	14.3	87.8
Fiji.....	—	—	3.7	99.8	—	0.2	—	2.3	0.1	31.7	0.3	66.0
New Zealand.....	1.2	7.6	1.3	8.0	13.7	84.4	0.6	3.1	0.7	3.5	17.9	93.4
Totals, Oceania.....	2.7	11.0	5.9	23.9	15.9	65.1	1.1	2.9	2.4	6.7	32.6	90.4
AFRICA.												
British East Africa.....	0.1	4.8	1.9	95.1	0.0	0.1	0.0	0.2	0.0	0.2	1.7	99.6
British South Africa.....	0.1	7.5	0.6	76.7	0.1	15.8	1.1	9.8	0.4	3.6	9.5	86.6
British West Africa.....	1.3	100.0	—	—	—	—	—	—	0.0	0.2	1.1	99.8
Totals, Africa.....	1.8	40.0	2.5	56.2	0.2	3.8	1.1	6.3	0.6	3.3	15.8	90.4
Grand Totals.....	288.3	23.1	96.0	7.7	864.0	69.2	429.4	38.4	213.3	19.0	477.6	42.6
United Kingdom.....	11.3	5.9	8.6	4.6	169.3	89.5	175.8	62.4	22.4	7.9	83.6	29.7
Other Br. Empire.....	12.3	19.4	20.0	31.4	31.3	49.2	7.1	7.2	7.5	7.6	83.4	85.2
Totals, Br. Empire....	23.6	9.3	28.6	11.3	200.5	79.4	182.8	48.1	29.8	7.9	167.0	44.0
United States.....	225.2	26.6	57.0	6.7	565.3	66.7	160.3	31.1	144.0	28.0	210.8	40.9
Other foreign countries..	39.5	26.7	10.4	7.0	98.2	66.3	86.3	38.2	39.4	17.5	99.9	44.3
Totals, Foreign Countries.....	264.7	26.6	67.4	6.7	663.5	66.7	246.5	33.3	183.4	24.8	310.7	41.9

Subsection 8.—Canada's Position in International Trade in the Calendar Years 1913 and 1930.

Canada continues to hold her position in international trade, as indicated by the following table giving "Comparison of the Trade of the Principal Countries of the World". In 1913 the Dominion occupied eighth place in imports among the leading trading countries but in 1930 she occupied fifth place. In export trade, Canada in 1913 was in tenth position, in 1929 she had moved up to fifth position but in 1930 was in sixth position, British India having moved up to fifth place. In aggregate trade, Canada in 1913 was in ninth position but in 1930, as in 1926 to 1929, she was in fifth position. Thus in imports and aggregate trade Canada came next after the four leading trading countries, each of which has from four to twelve times our population, *viz.*, the United States, the United Kingdom, Germany and France.

The serious falling off in Canada's trade during the calendar year 1930, the proportional decrease being greater than for a number of the leading European trading nations, has affected Canada's position in trade per capita as compared with 1929. Thus in imports per capita Canada dropped from fourth to eighth place, in exports from third to fourth, and in aggregate trade from fourth to sixth. However, as compared with 1913, Canada's position in trade per capita has been well maintained, and the amount of trade on that basis has shown a substantial increase. In aggregate per capita trade in 1930 Canada was exceeded by New Zealand, Denmark, Switzerland, Netherlands and Belgium.

COMPARISON OF THE TRADE OF THE PRINCIPAL COUNTRIES OF THE WORLD,
CALENDAR YEARS 1913 AND 1930.

Rank.		Country.	Foreign Trade.		Increase (+) or Decrease (—) 1930 Compared with 1913.		Trade per capita.	
1913.	1930.		1913.	1930.	Amount.	Per cent.	1913.	1930.
			Million \$	Million \$	Million \$	p.c.	\$	\$
		<i>Net Imports for Consumption.</i>						
1	1	United Kingdom.....	3,207.9	4,661.6	+ 1,453.7	+ 45.3	69.68	101.56
3	2	United States.....	1,756.9	2,995.5	+ 1,242.6	+ 70.7	18.10	24.44
2	3	Germany.....	2,563.3	2,473.6	— 89.7	— 3.5	38.62	38.20
4	4	France.....	1,625.3	2,057.1	+ 431.8	+ 26.6	41.04	50.01
8	5	Canada.....	659.1	989.0	+ 329.9	+ 50.1	87.55	99.35
5	6	Netherlands.....	1,575.0	974.1	— 600.9	— 38.2	256.35	123.30
7	7	Italy.....	703.6	907.8	+ 204.2	+ 29.0	20.28	21.77
6	8	Belgium.....	894.9	863.9	— 31.0	— 3.5	118.07	107.19
13	9	Japan.....	363.3	746.0	+ 382.7	+ 105.3	6.94	11.51
10	10	Argentina.....	406.6	713.3	+ 306.7	+ 75.4	46.76	63.72
9	11	British India.....	594.1	696.1	+ 102.0	+ 17.2	1.88	2.18
12	12	Switzerland.....	370.5	517.1	+ 146.6	+ 39.6	97.99	127.62
11	13	Australia.....	370.6	448.4	+ 77.8	+ 21.0	78.30	69.69
16	14	Sweden.....	226.9	443.1	+ 216.2	+ 95.3	40.44	72.40
17	15	Denmark.....	208.3	438.0	+ 229.7	+ 110.3	75.08	124.44
18	16	British South Africa.....	196.5	314.2	+ 117.7	+ 59.9	28.72	28.03
15	17	Spain.....	252.1	287.5	+ 35.4	+ 14.0	12.64	12.72
19	18	Norway.....	148.0	283.4	+ 135.4	+ 91.5	60.11	100.47
14	19	Brazil.....	326.0	256.6	— 69.4	— 21.3	13.41	6.37
20	20	New Zealand.....	104.1	204.1	+ 100.0	+ 96.2	98.89	136.96

COMPARISON OF THE TRADE OF THE PRINCIPAL COUNTRIES OF THE WORLD,
CALENDAR YEARS 1913 AND 1930—concluded.

Rank.		Country.	Foreign Trade.		Increase (+) or Decrease (—) 1930 Compared with 1913.			Trade per capita.
1913.	1930.		1913.	1930.	Amount.	Per cent.	1913.	1930.
		<i>Exports (Domestic).</i>	Million \$	Million \$	Million \$	p.c.	\$	\$
2	1	United States.....	2,448.3	3,781.8	+ 1,333.5	+ 54.5	25.23	30.82
1	2	United Kingdom.....	2,556.2	2,776.7	+ 220.5	+ 8.6	55.52	60.50
3	3	Germany.....	2,402.9	2,696.1	+ 293.2	+ 12.2	36.22	41.64
4	4	France.....	1,327.9	1,683.2	+ 355.3	+ 26.8	33.53	40.92
6	5	British India.....	781.9	917.4	+ 135.5	+ 17.3	2.48	2.88
10	6	Canada.....	436.2	885.9	+ 449.7	+ 103.1	57.95	89.17
7	7	Belgium.....	701.5	733.4	+ 31.9	+ 4.5	92.55	90.99
13	8	Japan.....	313.5	710.3	+ 396.8	+ 126.6	5.99	10.96
5	9	Netherlands.....	1,239.4	692.4	- 547.0	- 44.1	201.71	87.64
8	10	Italy.....	484.7	634.8	+ 150.1	+ 31.0	12.97	15.23
9	11	Argentina.....	465.6	592.6	+ 127.0	+ 27.3	53.61	52.94
11	12	Australia.....	354.0	434.3	+ 80.3	+ 22.7	74.78	67.50
15	13	Sweden.....	219.0	415.5	+ 196.5	+ 89.7	39.05	67.89
17	14	Denmark.....	170.8	406.8	+ 236.0	+ 138.2	61.55	115.57
14	15	Switzerland.....	265.6	343.1	+ 77.5	+ 29.2	70.25	84.67
18	16	British South Africa...	133.9	330.6	+ 196.7	+ 146.9	19.58	29.49
12	17	Brazil.....	314.7	318.5	+ 3.8	+ 1.2	12.94	7.91
16	18	Spain.....	204.1	270.2	+ 66.1	+ 32.4	10.23	11.96
19	19	New Zealand.....	102.1	215.2	+ 113.1	+ 110.8	97.01	144.40
20	20	Norway.....	102.1	180.7	+ 78.6	+ 77.0	41.46	64.05
		<i>Aggregate Trade.</i>						
1	1	United Kingdom.....	5,764.1	7,438.3	+ 1,674.2	+ 29.0	125.20	162.06
3	2	United States.....	4,205.2	6,781.3	+ 2,576.1	+ 61.3	43.33	55.26
2	3	Germany.....	4,966.2	5,169.7	+ 203.5	+ 4.1	74.84	79.84
4	4	France.....	2,953.2	3,740.3	+ 787.1	+ 26.7	74.57	90.93
9	5	Canada.....	1,095.3	1,874.9	+ 779.6	+ 71.2	145.50	188.52
5	6	Netherlands.....	2,814.4	1,666.5	- 1,147.9	- 40.8	458.06	210.94
7	7	British India.....	1,376.0	1,613.5	+ 237.5	+ 17.3	4.36	5.06
6	8	Belgium.....	1,596.4	1,597.3	+ 0.9	+ 0.1	210.62	198.18
8	9	Italy.....	1,188.3	1,542.6	+ 354.3	+ 29.8	34.25	37.00
12	10	Japan.....	676.8	1,456.3	+ 779.5	+ 115.2	12.93	22.47
10	11	Argentina.....	872.2	1,305.9	+ 433.7	+ 49.7	100.35	116.66
11	12	Australia.....	724.6	882.7	+ 158.1	+ 21.8	153.08	137.19
14	13	Switzerland.....	636.1	860.2	+ 224.1	+ 35.2	168.24	212.29
16	14	Sweden.....	445.9	858.6	+ 412.7	+ 92.6	79.49	140.29
17	15	Denmark.....	379.1	844.8	+ 465.7	+ 122.8	136.63	240.01
18	16	British South Africa...	330.4	644.8	+ 314.4	+ 95.2	48.30	58.52
13	17	Brazil.....	640.7	575.1	- 65.6	- 10.2	26.35	14.28
15	18	Spain.....	456.2	557.7	+ 101.5	+ 22.2	22.87	24.68
19	19	Norway.....	250.1	464.1	+ 214.0	+ 85.6	101.57	164.52
20	20	New Zealand.....	206.2	419.3	+ 213.1	+ 103.3	195.90	281.36

Canada's Share in World Trade.—Two tables on pp. 57 and 58 of the Condensed Preliminary Report on the Trade of Canada, 1931, published by the Dominion Bureau of Statistics, and not reproduced here to economise space, show in values and percentages Canada's share in the imports and in the exports of the forty principal trading countries of the world for the calendar years 1913, 1922 and 1929.

Since 1913 Canada has made remarkable progress in the expansion of her export trade to the world's markets, and in supplying her requirements from all parts of the world. The first of the above-mentioned tables showing "Canada's Share in Imports of Principal Countries", indicates that while the total imports of the 40 countries listed increased from 1913 to 1929 by 60 p.c., the share of those imports provided by Canada increased by 215 p.c. In 1913 Canada provided only 1.95 p.c. of the total imports of these countries, while in 1929 her share was 3.83 p.c.

With regard to Empire countries, imports from Canada by the British West Indies expanded from 9.7 p.c. in 1913 to 18.5 p.c. of their total imports in 1929; by British Guiana from 9.3 p.c. to 18.8 p.c.; by Australia from 1.2 p.c. to 2.7 p.c.; by New Zealand from 2.1 p.c. to 9.8 p.c.; by British South Africa from 2.0 p.c. to 3.6 p.c.; by Newfoundland from 32 p.c. to 41 p.c.; while the percentage for the United Kingdom remained stationary at 3.8 p.c. in 1929 as in 1913. Among the principal foreign countries, imports from Canada by the United States increased from 7.9 p.c. of its total imports in 1913 to 11.4 p.c. in 1929; by Germany from 0.6 p.c. to 2.3 p.c.; by Italy from 0.4 p.c. to 3.2 p.c.; and by France from 0.2 p.c. to 1.5 p.c.

In the interpretation of these and all tables showing trade between Canada and other specified countries, it should be borne in mind that there are numerous and, in some instances, quite large discrepancies between the figures of trade with a specified country as shown by Canada and as shown by that country. These arise in all countries chiefly through inability to trace the actual origin of imports and final destination of exports. A large proportion of Canada's overseas exports passes through the United States and is therefore credited to the latter country rather than Canada by the importing countries. If the Canadian figures of declared exports be substituted, the total imports from Canada of these 40 principal countries in 1929 would be \$1,172,998,000, an increase of 230 p.c. over 1913 and amounting to 4.02 p.c. of the total imports of these countries in 1929.

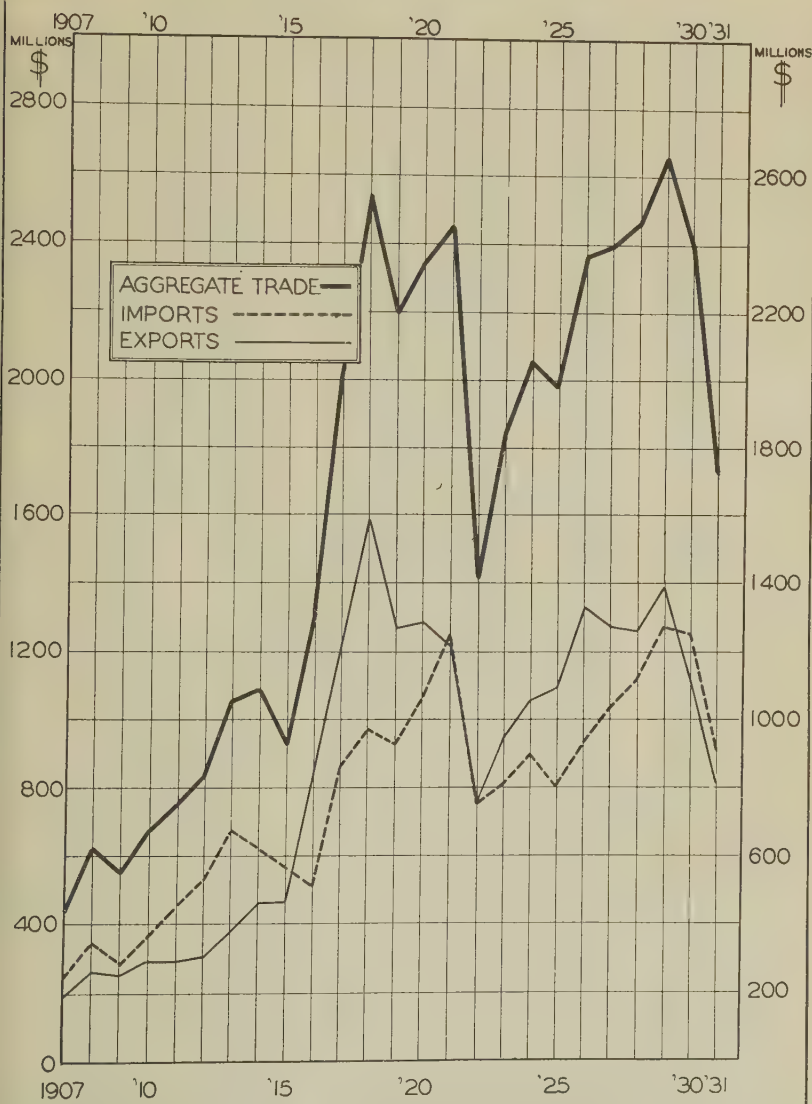
The other side of this trade expansion is shown in the other table, "Canada's Share in Domestic Exports of Principal Countries", which indicates the increasing proportion of the exports of 40 countries taken by Canada. While the total exports of these countries increased from 1913 to 1929 by 58 p.c., exports to Canada increased 122 p.c., or from 3.39 p.c. to 4.75 p.c. of the total exports of these countries.

Among countries of the Empire, Canada's purchases from the British West Indies increased from 11.8 p.c. of their total exports in 1913 to 18.0 p.c. in 1929; from New Zealand from 2.7 p.c. to 6.2 p.c.; from Fiji from 4.7 p.c. to 33.4 p.c.; from Australia from 0.2 p.c. to 0.8 p.c.; and from the United Kingdom from 4.5 p.c. to 4.8 p.c. Among the principal foreign countries, exports to Canada by the United States increased from 15.9 p.c. of its total exports in 1913 to 17.5 p.c. in 1929; by France from 0.4 p.c. to 1.2 p.c.; by Germany from 0.6 p.c. to 0.7 p.c.; and by Belgium from 0.5 p.c. to 1.2 p.c.

Subsection 9.—Main Historical Tables and Tables showing Current Trends in External Trade.

In this subsection are assembled in summary form the main tables of Canadian trade since Confederation, while the figures of trade in the latest years are given in greater detail by countries and commodities. Tables 1 to 9 inclusive are of a historical character, while Tables 10 and 11 give in summary form, and Tables 12 and 13 in detail, our exports and imports for the four latest fiscal years. In Table 14 imports are divided into dutiable and free, and exports into Canadian and foreign produce. Table 15 analyses our trade in the latest year by main groups of origin and degrees of manufacture. Table 16 classifies that trade according to purpose. Table 17 gives trade by provinces and customs ports, and Table 18 by tariffs. Tables 19 and 20 deal with our imports and exports by countries in the latest five years, while Table 21 shows the values of our imports and exports transported *via* the United States.

AGGREGATE EXTERNAL TRADE OF CANADA, 1907-31



1.—Aggregate External Trade of Canada, fiscal years, 1868-1931.

Fiscal Year.	IMPORTS OF MERCHANDISE ENTERED FOR HOME CONSUMPTION.			EXPORTS OF MERCHANDISE. ¹			Total of Imports for Home Consumption and Exports (Merchandise).
	Dutiable.	Free.	Total.	Canadian Produce. ¹	Foreign Produce.	Total.	
	\$	\$	\$	\$	\$	\$	\$
1868	43,655,696	23,434,463	67,090,159	48,504,899	4,166,821	52,701,720	119,791,879
1869	41,069,342	22,085,599	63,154,941	52,400,772	3,855,801	56,256,573	119,411,514
1870	45,127,422	21,774,652	66,902,074	59,043,590	6,527,622	65,571,212	132,473,286
1871	60,094,362	24,120,026	84,214,388	57,630,024	9,853,244	67,483,268	151,697,656
1872	68,276,157	36,679,210	104,955,367	65,831,083	12,798,182	78,629,265	183,584,632
1873	71,198,176	53,310,953	124,509,129	76,538,025	8,405,910	85,943,935	210,453,064
1874	76,232,530	46,948,357	123,180,887	76,741,997	10,614,056	87,356,053	210,536,980
1875	78,138,511	39,270,057	117,408,568	69,709,823	7,137,319	76,847,142	194,255,710
1876	60,238,297	32,274,810	92,513,107	72,491,437	7,234,961	79,726,398	172,239,505
1877	60,916,770	33,209,624	94,126,394	68,030,546	7,111,108	75,141,654	169,268,048
1878	59,773,036	30,622,812	90,395,851	67,989,800	11,164,878	79,154,678	169,550,529
1879	55,426,836	23,275,683	78,702,519	62,431,025	8,355,644	70,786,669	149,489,188
1880	54,182,967	15,717,575	69,900,542	72,899,697	13,240,006	86,139,703	156,040,245
1881	71,620,725	18,867,604	90,488,329	83,944,701	13,375,117	97,319,818	187,808,147
1882	85,757,433	25,387,751	111,145,184	94,137,657	7,628,453	101,766,110	212,911,294
1883	91,588,339	30,273,157	121,861,496	87,702,431	9,751,773	97,454,204	219,315,700
1884	80,010,498	25,962,480	105,972,978	79,833,098	9,389,106	89,222,204	195,195,182
1885	73,269,618	26,486,157	99,755,775	79,131,735	8,079,646	87,211,381	186,967,156
1886	70,658,819	25,333,318	95,992,137	77,756,704	7,438,079	85,194,783	181,186,920
1887	78,120,679	26,986,531	105,107,210	80,980,909	8,549,333	89,510,242	194,617,452
1888	69,645,824	31,025,804	100,671,628	81,382,072	8,803,394	90,185,466	180,857,094
1889	74,475,139	34,623,957	109,099,196	80,272,456	6,938,455	87,210,911	196,309,107
1890	77,106,286	34,576,287	111,682,573	85,257,586	9,051,781	94,309,367	205,991,940
1891	74,536,036	36,997,918	111,533,954	88,671,738	8,798,631	97,470,369	209,004,323
1892	69,160,737	45,999,676	115,160,413	99,032,466	13,121,791	112,154,257	227,314,670
1893	69,873,571	45,297,559	115,170,830	105,488,798	8,941,556	114,430,654	229,601,484
1894	62,779,182	46,291,729	109,070,911	103,851,764	11,833,805	115,685,569	224,756,480
1895	58,557,655	42,118,236	100,675,891	102,828,441	6,485,043	109,313,484	209,989,375
1896	67,239,759	38,121,402	105,361,161	109,707,805	6,606,738	116,314,543	221,675,704
1897	66,220,765	40,397,062	106,617,827	123,632,540	10,825,163	134,457,703	241,075,530
1898	74,625,088	51,682,074	126,307,162	144,548,662	14,580,883	159,259,545	285,836,707
1899	89,433,172	59,989,244	149,422,416	137,360,792	17,520,088	154,880,880	304,303,286
1900	104,346,795	68,304,881	172,651,676	168,972,301	14,265,254	183,237,555	355,889,231
1901	105,969,756	71,961,163	177,930,919	177,431,386	17,077,757	194,509,143	372,440,062
1902	118,657,496	78,080,308	196,737,804	196,019,763	13,951,101	209,970,864	406,708,668
1903	136,796,065	88,298,744	225,094,809	214,401,674	10,828,087	225,229,761	450,324,570
1904	148,909,576	94,999,839	243,909,415	198,414,439	12,641,239	211,055,678	454,965,093
1905	150,928,787	101,035,427	251,964,214	190,854,946	10,617,115	201,472,061	453,436,275
1906	173,046,109	110,694,171	283,740,280	235,483,956	11,173,846	246,657,802	530,398,082
1907 ²	152,065,529	58,160,306	250,225,835	180,545,306	11,541,927	192,087,233	442,313,068
1908	218,160,047	134,380,832	352,540,879	246,960,968	16,407,984	263,368,952	615,909,831
1909	175,014,160	113,580,036	288,594,196	242,603,584	17,318,782	259,922,366	548,516,562
1910	227,264,346	143,053,853	370,318,199	279,247,551	19,516,442	298,763,993	669,082,192
1911	282,723,812	170,000,791	452,724,603	274,316,553	15,683,657	290,000,210	742,724,813
1912	335,304,060	187,100,615	522,404,675	290,223,857	17,492,294	307,716,151	830,120,826
1913	441,606,885	229,600,349	671,207,234	355,754,600	21,313,755	377,068,355	1,048,275,589
1914	410,258,744	208,935,254	619,193,998	431,588,439	23,848,785	455,437,224	1,074,631,222
1915	279,792,195	176,163,713	455,955,908	409,418,336	52,023,673	461,442,509	917,398,417
1916	289,366,527	218,834,607	508,201,134	471,610,638	37,689,432	509,300,070	1,287,501,204
1917	461,733,609	384,717,269	846,450,878	1,513,375,768	27,835,332	1,541,211,100	2,025,661,978
1918	542,341,522	421,191,056	963,532,578	1,450,027,788	46,142,394	1,586,169,792	2,549,702,370
1919	526,494,658	393,217,047	919,711,705	1,216,443,806	52,321,475	1,268,765,281	2,188,476,990
1920	603,655,165	370,872,958	1,064,528,123	1,239,492,098	47,166,611	1,286,658,709	2,351,186,832
1921	847,561,406	392,597,476	1,240,158,882	1,189,163,701	21,264,418	1,210,428,119	2,450,587,001
1922	495,626,323	252,178,009	747,804,332	740,240,680	13,686,329	753,927,009	1,501,731,341
1923	537,258,782	265,320,462	802,579,244	931,451,443	13,844,394	945,295,837	1,747,875,081
1924	591,299,094	302,067,773	893,366,867	1,045,351,056	13,412,241	1,058,763,297	1,952,130,164
1925	516,014,455	280,918,082	796,932,537	1,069,067,353	12,294,290	1,081,361,643	1,878,294,180
1926	583,051,670	344,277,062	927,328,732	1,315,355,791	13,344,346	1,328,700,137	2,550,028,869
1927	659,897,013	370,995,492	1,030,892,505	1,252,157,506	15,415,636	1,267,573,142	2,298,465,647
1928	710,050,228	398,906,238	1,108,956,466	1,228,349,343	22,248,691	1,250,598,034	2,359,554,500
1929	821,075,430	444,603,661	1,265,679,091	1,363,709,672	25,186,403	1,388,896,075	2,654,575,166
1930	819,230,474	429,043,108	1,248,273,582	1,200,258,302	24,679,768	1,244,938,070	2,393,211,652
1931	574,090,230	332,522,465	906,612,695	799,742,667	17,285,381	817,028,048	1,723,640,743
1932 ³	338,511,888	190,005,856	528,517,744	576,344,302	11,221,215	587,565,517	1,166,033,261

¹Including exports to the United States estimated "short" in the years 1868-1900.²Preliminary figures.³Nine months.

Ratio of Exports to Imports and Value per Capita of Exports, Imports and Total Trade, fiscal years 1868-1931.

Fiscal Year.	Excess of Imports Entered for Consumption over Total Exports.	Excess of Total Exports over Imports Entered for Consumption.	Percentage Rate of Total Exports to Imports Entered for Consumption.	Estimated Population.	Values per capita of—		
					Exports Canadian Produce.	Total Imports.	Total Trade. ²
	\$	\$	p.c.	No.	\$	\$	\$
1868	14,388,439	—	78-55	3,372,000	14-38	19-90	34-28
1869	6,898,368	—	89-07	3,413,000	15-35	18-50	33-85
1870	1,330,862	—	98-01	3,454,000	17-09	19-37	36-46
1871	16,731,120	—	80-13	3,518,000	16-38	23-94	40-32
1872	26,326,102	—	74-92	3,611,000	18-23	29-06	47-29
1873	38,565,194	—	68-03	3,668,000	20-87	33-94	54-81
1874	35,824,794	—	70-92	3,825,000	20-06	32-20	52-26
1875	40,561,426	—	64-45	3,887,000	17-93	30-21	48-14
1876	12,786,709	—	86-18	3,949,000	18-36	23-43	41-79
1877	18,984,740	—	79-83	4,013,000	16-97	23-45	40-42
1878	11,241,173	—	87-56	4,079,000	16-67	22-16	38-83
1879	7,915,850	—	89-94	4,146,000	15-06	18-98	34-04
1880	—	16,239,161	123-23	4,215,000	17-29	16-58	33-87
1881	—	6,831,489	107-05	4,337,000	19-36	20-86	40-22
1882	9,379,074	—	91-57	4,384,000	21-47	25-35	46-82
1883	24,407,292	—	79-97	4,433,000	19-78	27-49	47-27
1884	16,750,774	—	84-19	4,485,000	17-80	23-63	41-43
1885	12,544,394	—	87-42	4,539,000	17-43	21-98	39-41
1886	10,797,354	—	88-75	4,589,000	16-94	20-92	37-86
1887	15,596,968	—	85-16	4,638,000	17-46	22-66	40-12
1888	10,486,162	—	89-58	4,688,000	17-36	21-47	38-83
1889	21,187,285	—	79-93	4,740,000	16-94	23-02	39-96
1890	17,373,206	—	84-44	4,793,000	17-79	23-30	41-09
1891	14,063,585	—	87-39	4,844,000	18-31	23-02	41-33
1892	3,006,156	—	97-39	4,889,000	20-26	23-55	43-81
1893	740,176	—	99-36	4,936,000	21-37	23-33	44-70
1894	—	6,614,658	106-06	4,984,000	20-84	21-88	42-72
1895	—	8,637,593	108-58	5,034,000	20-43	20-00	40-43
1896	—	10,453,382	110-40	5,086,000	21-57	20-72	42-29
1897	—	27,839,876	126-11	5,142,000	24-04	20-73	44-77
1898	—	33,222,383	126-30	5,199,000	27-80	24-29	52-09
1899	—	5,458,464	103-65	5,259,000	26-12	28-41	54-53
1900	—	10,585,879	106-13	5,322,000	31-75	32-44	64-19
1901	—	16,578,224	109-32	5,403,000	32-84	33-13	65-97
1902	—	13,233,060	106-73	5,532,000	35-43	35-56	70-99
1903	—	134,952	100-06	5,673,000	37-79	39-68	77-47
1904	32,853,737	—	86-53	5,825,000	34-06	41-87	75-93
1905	50,492,153	—	79-96	5,992,000	31-85	42-05	73-90
1906	37,082,478	—	86-93	6,171,000	38-16	45-98	84-14
1907	58,138,602	—	76-77	6,302,000	28-65	39-70	68-35
1908	89,171,927	—	74-71	6,491,000	38-05	54-31	92-36
1909	28,671,830	—	90-06	6,695,000	36-94	43-10	79-34
1910	71,554,200	—	80-68	6,917,000	40-37	53-54	93-91
1911	162,724,393	—	64-06	7,206,643	38-06	62-82	100-88
1912	214,688,524	—	58-90	7,365,205	39-40	70-93	110-33
1913	294,138,879	—	56-18	7,527,208	47-26	89-17	136-43
1914	163,756,774	—	73-56	7,692,832	56-10	80-49	136-59
1915	—	5,486,601	101-20	7,862,078	52-08	57-99	110-07
1916	—	271,093,936	153-34	8,035,584	92-29	63-24	155-53
1917	—	332,760,222	139-31	8,180,160	140-75	103-48	244-23
1918	—	622,637,214	164-62	8,328,382	184-91	115-69	300-60
1919	—	349,053,580	137-95	8,478,546	143-48	108-48	251-96
1920	—	222,130,586	120-87	8,631,475	143-61	123-34	266-95
1921	29,730,763	—	97-60	8,787,949	135-32	141-20	276-52
1922	—	6,122,677	100-82	8,919,000 ³	83-00	83-84	166-84
1923	—	142,716,593	117-78	9,009,000 ³	103-39	89-09	192-48
1924	—	165,399,430	118-51	9,142,000 ³	114-35	97-72	212-07
1925	—	284,429,106	135-69	9,293,000 ³	115-04	85-76	200-80
1926	—	401,371,405	143-28	9,450,000 ³	139-19	93-13	237-32
1927	—	236,680,637	122-92	9,635,000 ³	129-96	106-09	236-05
1928	—	141,641,568	112-76	9,833,000 ³	124-92	112-78	237-70
1929	—	123,216,984	109-72	10,027,000 ³	136-00	126-23	262-23
1930	103,335,512	—	91-72	10,206,000 ³	117-83	122-31	240-14
1931	89,584,647	—	90-12	10,374,196	77-09	87-39	164-48
1932	—	9,047,773	100-16	—	—	—	—

Nine months. ²Not including exports of foreign produce. ³The population upon which per capital values are based for the years 1922-30 inclusive are the revised estimates (see p. 110). ⁴Preliminary figures.

3.—Movement of Coin and Bullion, fiscal years 1868-1931.

NOTE.—Up to 1919 "silver bullion in bars, blocks, ingots, drops, sheets and plates, unmanufactured" included in "coin and bullion" but since that time it has been regarded as "merchandise". Figures from 1899 have been revised in accordance with the new arrangement.

Fiscal Year.	Total Imports.	Exports.			Total Imports and Exports of Coin and Bullion.
		Canadian.	Foreign.	Total.	
	\$	\$	\$	\$	\$
1868.....	4,895,147	4,866,168	—	4,866,168	9,761,315
1869.....	4,247,229	4,218,208	—	4,218,208	8,465,437
1870.....	4,335,529	8,002,278	—	8,002,278	12,337,807
1871.....	2,733,094	6,690,350	—	6,690,350	9,423,444
1872.....	2,753,740	4,010,398	—	4,010,398	6,764,138
1873.....	3,005,465	3,845,987	—	3,845,987	6,851,452
1874.....	4,223,282	1,995,835	—	1,995,835	6,219,117
1875.....	2,210,089	1,039,837	—	1,039,837	3,249,926
1876.....	2,220,111	1,240,037	—	1,240,037	3,460,148
1877.....	2,174,089	—	733,739	733,739	2,907,828
1878.....	803,726	—	168,989	168,989	972,715
1879.....	1,639,089	—	704,586	704,586	2,343,675
1880.....	1,881,807	—	1,771,755	1,771,755	3,653,562
1881.....	1,123,275	—	971,005	971,005	2,094,280
1882.....	1,503,743	—	371,093	371,093	1,874,836
1883.....	1,275,523	—	631,600	631,600	1,907,123
1884.....	2,207,666	—	2,184,292	2,184,292	4,391,958
1885.....	2,954,244	—	2,026,980	2,026,980	4,981,224
1886.....	3,610,557	—	56,531	56,531	3,667,088
1887.....	532,218	—	5,569	5,569	537,787
1888.....	2,175,472	—	17,534	17,534	2,193,006
1889.....	575,251	—	1,978,256	1,978,256	2,553,507
1890.....	1,083,011	—	2,439,782	2,439,782	3,522,793
1891.....	1,811,170	129,328	817,599	946,927	2,758,097
1892.....	1,818,530	306,447	1,502,671	1,809,118	3,627,648
1893.....	6,534,200	309,459	3,824,239	4,133,698	10,667,899
1894.....	4,023,072	310,006	1,529,374	1,839,380	5,862,452
1895.....	4,576,620	256,571	4,068,748	4,235,319	8,801,939
1896.....	5,226,319	207,532	4,491,777	4,699,309	9,925,628
1897.....	4,676,194	327,298	3,165,252	3,492,550	8,168,742
1898.....	4,390,844	1,045,723	3,577,415	4,623,138	9,013,982
1899.....	4,629,177	1,101,245	2,914,780	4,016,025	8,645,202
1900.....	8,152,640	1,670,068	6,987,100	8,657,168	16,809,808
1901.....	3,307,069	—	1,978,489	1,978,489	5,285,558
1902.....	6,053,791	—	1,669,422	1,669,422	7,723,213
1903.....	8,695,707	—	619,963	619,963	9,315,670
1904.....	7,554,917	—	2,465,557	2,465,557	10,020,474
1905.....	9,961,340	—	1,844,811	1,844,811	11,806,151
1906.....	6,670,527	—	9,928,828	9,928,828	16,599,355
1907 (9 months).....	7,029,047	—	13,189,964	13,189,964	20,218,011
1908.....	5,887,737	—	16,637,654	16,637,654	22,525,391
1909.....	9,611,761	2	1,589,791	1,589,793	11,201,554
1910.....	5,514,817	—	2,594,536	2,594,536	8,109,353
1911.....	9,226,715	—	7,196,155	7,196,155	16,422,870
1912.....	25,077,515	—	7,601,099	7,601,099	32,678,614
1913.....	4,309,811	—	16,163,702	16,163,702	20,473,513
1914.....	14,498,451	1,219	23,559,485	23,560,704	38,059,155
1915.....	131,483,396	667	29,365,701	29,366,368	160,849,764
1916.....	33,876,227	315	103,572,117	103,572,432	137,448,644
1917.....	26,986,548	86,087	196,460,961	196,547,048	223,533,596
1918.....	11,290,341	290,281	3,201,122	3,491,403	14,781,744
1919.....	—	—	—	—	—
1920.....	50,463,494	230,117	49,815,279	50,045,396	100,508,890
1921.....	7,218,775	24,368,846	9,815,827	34,184,673	41,403,421
1922.....	4,788,246	18,085,904	5,251,430	23,337,331	28,125,546
1923.....	26,455,231	1,766,060	25,782,806	27,548,866	54,004,097
1924.....	3,496,705	12,521,619	12,924,211	25,445,830	28,942,535
1925.....	4,142,292	2,948,353	1,971,620	4,919,973	9,062,265
1926.....	51,437,859	45,880,408	25,242,303	71,122,711	122,560,567
1927.....	46,086,458	2,011,391	43,040,819	45,052,210	91,138,668
1928.....	31,308,807	30,855,056	31,031,311	61,886,967	93,195,764
1929.....	29,560,310	36,932,465	58,299,998	95,232,463	124,792,773
1930.....	2,716,218	410,435	4,494,783	4,905,218	7,621,433
1931.....	39,126,924	80	44,996,512	44,996,592	84,123,516
1932.....	1,799,093	44,994,578	22,860,214	67,854,792	69,653,885

¹ No record for 1919 imports and exports.² Preliminary figures.

4.—Duties Collected on Exports, 1868-1892, and on Imports for Home Consumption, 1868-1931, with Percentages of Expense of Collection to Gross Customs Revenue Collected, fiscal years 1868-1931.

NOTE.—Duties on exports were not collected after the year 1892. The figures in this table are the gross figures of duties collected; the net national revenue from customs taxation, because of the drawbacks paid where commodities on which duties have been collected are afterwards exported in a more highly manufactured state, is considerably smaller. For statistics of net customs revenue see Statement of Customs Duties, Table 4, in Chapter XXI on Public Finance.

Fiscal Year.	Duties Collected on Exports.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.	Fiscal Year.	Duties Collected on Exports.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.
	\$	\$	p.c.		\$	\$	p.c.
1868.....	17,986	8,801,446	5.99	1881.....	8,141	18,492,645	3.87
1869.....	14,403	8,284,507	7.09	1882.....	8,810	21,700,028	3.33
1870.....	37,912	9,425,028	5.41	1883.....	9,756	23,162,553	3.26
1871.....	36,066	11,807,590	4.21	1884.....	8,515	20,156,448	3.96
1872.....	24,809	13,020,684	4.04	1885.....	12,305	19,121,254	4.14
1873.....	20,152	12,997,578	4.35	1886.....	20,726	19,427,398	4.10
1874.....	14,565	14,407,318	4.55	1887.....	31,397	22,438,309	3.64
1875.....	7,243	15,354,139	4.44	1888.....	21,772	22,187,869	3.81
1876.....	4,500	12,828,614	5.61	1889.....	42,207	23,742,317	3.62
1877.....	4,103	12,544,348	5.75	1890.....	93,674	23,921,234	3.63
1878.....	4,161	12,791,532	5.58	1891.....	64,803	23,416,266	3.83
1879.....	4,272	12,935,269	5.56	1892.....	108	20,550,474	4.39
1880.....	8,896	14,129,953	5.04				

Fiscal Year.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.	Fiscal Year.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.	Fiscal Year.	Duties Collected on Imports.	Percentage of Expense of Collection to Gross Customs Revenue.
	\$	p.c.		\$	p.c.		\$	p.c.
1893.....	21,161,711	4.26	1906.....	46,671,101	3.31	1919.....	158,046,334 ¹	3.13
1894.....	19,376,822	4.75	1907 ² ...	40,290,172	3.04	1920.....	187,524,182 ¹	2.49
1895.....	17,887,269	5.13	1908.....	58,331,074	3.30	1921.....	179,667,683 ¹	3.36
1896.....	20,219,037	4.43	1909.....	48,059,792	4.15	1922.....	121,487,394 ¹	3.22
1897.....	19,891,997	4.73	1910.....	61,024,239	3.31	1923.....	133,803,370 ¹	2.58
1898.....	22,157,788	4.37	1911.....	73,312,368	2.98	1924.....	135,122,345	2.49
1899.....	25,734,229	4.02	1912.....	87,576,037	2.78	1925.....	120,222,454	3.09
1900.....	28,889,110	3.71	1913.....	115,063,688	2.74	1926.....	143,933,111	2.83
1901.....	29,106,980	3.86	1914.....	107,180,578	3.59	1927.....	158,966,367	2.66
1902.....	32,425,532	3.62	1915.....	79,205,910 ¹	4.77	1928.....	171,872,768	3.09
1903.....	37,110,355	3.31	1916.....	103,940,101 ¹	3.55	1929.....	200,479,505	3.02
1904.....	40,954,349	3.31	1917.....	147,631,455 ¹	2.54	1930.....	199,011,628	3.30
1905.....	42,024,340	3.49	1918.....	161,595,629 ¹	2.51	1931.....	149,250,992	4.45

¹ Includes war tax. ² Nine months.

5.—Exports to the United Kingdom, to the United States and to Other Countries, of Merchandise the Produce of Canada, fiscal years 1868-1931.

Fiscal Year.	Exports to United Kingdom.	Per cent Can. Exports to U.K. to Total Can. Exports. (mdse.)	Exports to United States.	Per cent. Can. Exports to U.S. to Total Can. Exports. (mdse.)	Exports to Other Countries.	Total Exports of Canadian Produce.
	\$	p.c.	\$	p.c.	\$	\$
1868.....	17,905,808	36.9	25,349,568	52.3	5,249,433	48,504,809
1869.....	20,486,389	39.1	26,717,656	51.0	5,186,727	52,400,772
1870.....	22,512,991	38.1	30,361,328	51.4	6,169,271	59,043,590
1871.....	21,733,556	37.7	29,164,358	50.6	6,732,110	57,630,024
1872.....	25,223,785	38.3	32,871,496	49.9	7,735,802	65,831,083
1873.....	31,402,234	41.0	36,714,144	48.0	8,421,647	76,538,025
1874.....	35,769,190	46.6	33,195,805	43.3	7,777,002	76,741,997
1875.....	34,199,134	49.1	27,902,748	40.0	7,607,941	69,709,823
1876.....	34,379,005	47.4	30,080,738	41.5	8,031,694	72,491,432
1877.....	35,491,671	52.2	24,326,332	35.8	8,212,543	68,030,546
1878.....	35,861,110	52.7	24,381,009	35.9	7,747,681	67,989,800
1879.....	29,393,424	47.1	25,491,356	40.8	7,546,245	62,431,025
1880.....	35,208,031	48.3	29,566,211	40.6	8,125,455	72,899,697
1881.....	42,637,219	50.8	34,038,431	40.5	7,269,051	83,944,701
1882.....	39,816,813	42.3	45,782,584	48.6	8,538,260	94,137,657
1883.....	39,538,067	45.1	39,513,225	45.1	8,651,139	87,702,431
1884.....	37,410,870	46.9	34,332,641	43.0	8,089,587	79,833,098
1885.....	36,479,051	46.1	35,566,810	44.9	7,085,874	79,131,735
1886.....	36,694,263	47.2	34,284,490	44.1	6,777,951	77,756,704
1887.....	38,714,331	47.8	35,269,922	43.6	6,976,656	80,960,909
1888.....	33,648,284	41.3	40,407,483	49.6	7,326,305	81,382,072
1889.....	33,504,281	41.7	39,519,940	49.2	7,248,235	80,272,456
1890.....	41,499,149	48.7	36,213,279	42.5	7,545,158	85,257,586
1891.....	43,243,784	48.8	37,743,430	42.6	7,684,524	88,671,738
1892.....	54,949,055	55.5	34,666,070	35.0	9,417,341	99,032,466
1893.....	58,409,606	55.4	37,296,110	35.4	9,783,082	105,488,798
1894.....	60,878,056	58.6	32,562,509	31.4	10,411,199	103,851,764
1895.....	57,903,564	56.3	35,603,863	34.6	9,321,014	102,828,444
1896.....	62,717,941	57.2	37,789,481	34.4	9,200,383	109,707,801
1897.....	69,533,852	56.2	43,664,187	35.3	10,434,501	123,632,541
1898.....	93,065,019	64.4	38,989,525	27.0	12,494,118	144,548,662
1899.....	85,113,681	62.0	39,326,485	29.0	12,920,626	137,360,792
1900.....	96,562,875	57.1	57,996,488	34.2	14,412,938	168,972,301
1901.....	92,857,525	52.3	67,983,673	38.3	16,590,188	177,431,386
1902.....	109,347,345	55.8	66,567,784	34.0	20,104,634	196,019,763
1903.....	125,199,980	58.4	67,766,367	31.6	21,435,327	214,401,674
1904.....	110,120,892	55.5	66,856,885	33.7	21,436,662	198,414,439
1905.....	97,114,867	50.9	70,426,765	36.9	23,313,314	190,854,946
1906.....	127,456,465	54.1	83,546,306	35.5	24,481,185	235,483,956
1907.....	98,691,186	54.7	62,180,439	34.4	19,673,681	180,545,300
1908.....	126,194,124	51.1	90,814,871	36.8	29,951,973	246,960,969
1909.....	126,384,724	52.1	85,334,066	35.2	30,884,054	242,603,565
1910.....	139,482,945	50.0	104,199,675	37.3	35,564,931	279,247,551
1911.....	132,156,924	48.2	104,115,823	38.0	38,043,806	274,316,553
1912.....	147,240,413	50.7	102,041,222	35.2	40,942,222	290,223,857
1913.....	170,161,903	47.8	139,725,953	39.3	45,866,744	355,754,600
1914.....	215,253,969	49.9	163,372,825	37.9	52,961,645	431,588,439
1915.....	186,668,554	45.6	173,320,216	42.3	49,430,066	409,418,836
1916.....	451,852,399	60.9	201,106,488	27.1	88,651,751	741,610,638
1917.....	742,147,537	64.5	280,616,330	24.4	128,611,901	1,151,375,768
1918.....	845,480,069	54.9	417,233,287	27.0	277,314,432	1,540,027,787
1919.....	540,750,977	44.5	454,873,170	37.4	220,819,659	1,216,443,806
1920.....	489,152,637	39.5	464,028,183	37.4	286,311,278	1,239,492,098
1921.....	312,844,871	26.3	542,322,967	45.6	333,995,863	1,189,163,701
1922.....	299,361,675	40.4	292,588,643	39.5	148,290,362	740,240,680
1923.....	379,067,445	40.7	369,080,218	39.6	183,303,780	931,451,443
1924.....	360,057,782	34.4	430,707,544	41.2	254,585,730	1,045,351,056
1925.....	395,843,433	37.0	417,417,144	39.0	255,806,766	1,069,067,343
1926.....	508,237,560	38.6	474,987,367	36.1	332,130,864	1,315,355,791
1927.....	446,872,851	35.7	466,422,789	37.3	338,861,866	1,252,157,506
1928.....	410,691,392	33.4	478,145,383	38.9	339,512,568	1,228,349,349
1929.....	429,730,485	31.5	499,612,145	36.7	434,367,042	1,363,709,672
1930.....	281,745,965	25.2	515,049,763	46.0	323,462,574	1,120,258,302
1931.....	219,246,499	27.4	349,660,563	43.7	230,835,605	799,742,667
1932 ¹	173,907,600	30.2	235,322,799	40.8	167,113,903	576,344,302

¹ Nine months.² Preliminary figures.

—Imports from the United Kingdom, from the United States and from Other Countries, of Merchandise Entered for Home Consumption, fiscal years 1868-1931.

Fiscal Year.	Imports from United Kingdom.	Per cent Imports from U.K. to total Imports. (mdse.)	Imports from United States.	Per cent Imports from U.S. to Total Imports. (mdse.)	Imports from Other Countries.	Total Imports for Home Consumption.
	\$	p.c.	\$	p.c.	\$	\$
868.....	37,617,325	56-1	22,660,132	33-8	6,812,702	67,090,159
869.....	35,496,764	56-2	21,497,380	34-0	6,160,797	63,154,941
870.....	37,537,095	56-1	21,697,237	32-4	7,667,742	66,902,074
871.....	48,498,202	57-6	27,185,586	32-3	8,530,600	84,214,388
872.....	62,209,254	59-7	33,741,995	32-1	9,004,118	104,955,367
873.....	67,996,945	54-6	45,189,110	36-3	11,323,074	124,509,129
874.....	61,424,407	49-9	51,706,906	42-0	10,049,574	123,180,887
875.....	60,009,084	51-1	48,930,358	41-7	8,469,126	117,408,568
876.....	40,479,253	43-8	44,099,880	47-7	7,933,974	92,513,107
877.....	39,331,621	41-8	49,376,008	52-5	5,418,765	94,126,394
878.....	37,252,769	41-2	48,002,875	53-1	5,140,207	90,395,851
879.....	30,967,778	39-3	42,170,306	53-6	5,564,435	78,702,519
880.....	33,764,439	48-3	28,193,783	40-3	7,942,320	69,900,542
881.....	42,885,142	47-4	36,338,701	40-6	11,264,486	90,488,329
882.....	50,356,268	45-3	47,052,935	42-3	13,735,981	111,145,184
883.....	51,679,762	42-4	55,147,243	45-3	15,034,491	121,861,496
884.....	41,925,121	39-6	49,785,888	47-0	14,261,969	105,972,978
885.....	40,031,448	40-1	45,576,510	45-7	14,147,817	99,755,775
886.....	39,033,006	40-7	42,818,651	44-6	14,140,480	95,992,137
887.....	44,741,350	42-6	44,795,908	42-6	15,569,952	105,107,210
888.....	39,167,644	38-9	46,440,296	46-1	15,063,688	100,671,628
889.....	42,251,189	38-7	50,029,419	45-9	16,817,588	109,098,196
890.....	43,277,009	38-8	51,365,661	46-0	17,039,903	111,682,573
891.....	42,018,943	37-7	52,033,477	46-7	17,481,534	111,533,954
892.....	41,063,711	35-7	51,742,132	44-9	22,354,570	115,160,413
893.....	42,529,340	36-9	52,339,796	45-4	20,301,694	115,170,830
894.....	37,035,963	34-0	50,746,091	46-5	21,288,857	109,070,911
895.....	31,059,332	30-9	50,179,004	49-8	19,437,555	100,675,891
896.....	32,824,505	31-2	53,529,390	50-8	19,007,266	105,361,161
897.....	29,401,188	27-6	57,023,342	53-5	20,193,297	106,617,827
898.....	32,043,461	25-4	74,824,923	59-2	19,438,778	126,307,162
899.....	36,966,552	24-7	88,506,881	59-2	23,948,983	149,422,416
900.....	44,280,041	25-7	102,224,917	59-2	26,146,718	172,651,676
901.....	42,820,334	24-1	107,377,906	60-3	27,732,679	177,930,919
902.....	49,022,726	25-0	115,001,533	58-4	32,713,545	196,737,804
903.....	58,793,038	26-2	129,071,197	57-3	37,230,574	225,004,809
904.....	61,724,893	25-3	143,329,697	58-7	38,854,825	243,909,415
905.....	60,342,704	24-0	152,778,576	60-6	38,842,934	251,964,214
906.....	69,183,915	24-4	169,256,452	59-6	45,299,913	283,740,280
907.....	64,415,756	25-8	149,085,577	59-5	36,724,502	250,225,835
908.....	94,417,320	26-8	205,309,803	58-2	52,813,756	352,540,879
909.....	70,682,600	24-5	170,432,360	59-0	47,479,236	288,594,196
910.....	95,337,058	25-8	218,004,556	58-9	56,976,585	370,318,199
911.....	109,934,753	24-3	275,824,265	60-8	66,965,585	452,724,603
912.....	116,906,360	22-4	331,384,657	63-4	74,113,658	522,404,675
913.....	138,742,644	20-7	436,887,315	65-0	95,577,275	671,207,234
914.....	132,070,406	21-4	396,302,138	64-0	90,821,454	619,193,998
915.....	90,157,204	19-8	297,142,059	65-2	68,656,645	455,955,908
916.....	77,404,361	15-2	370,880,549	73-0	59,916,224	508,201,134
917.....	107,096,735	12-7	665,312,759	78-6	74,041,384	846,450,878
918.....	81,324,283	8-4	792,894,957	82-3	89,313,338	963,532,578
919.....	73,035,118	8-0	750,203,024	81-6	96,473,563	919,711,705
920.....	126,362,631	11-9	801,097,318	75-3	137,068,174	1,064,528,123
921.....	213,973,562	17-3	856,176,820	69-0	170,008,500	1,240,158,882
922.....	117,135,343	15-7	515,958,196	69-0	114,710,793	747,804,332
923.....	141,330,143	17-6	540,989,738	67-4	120,259,363	802,579,244
924.....	153,586,690	17-2	601,256,447	67-3	138,523,730	893,366,867
925.....	151,083,946	19-0	509,780,009	64-0	136,068,582	796,932,537
926.....	163,731,210	17-6	608,618,542	65-6	154,978,980	927,328,732
927.....	163,939,065	15-9	687,022,521	66-6	179,930,919	1,030,892,505
928.....	186,435,824	16-7	718,896,270	64-9	203,624,372	1,108,956,466
929.....	194,041,381	15-3	868,012,229	68-6	203,625,481	1,265,679,091
930.....	189,179,738	15-2	847,442,037	67-9	211,651,807	1,248,273,582
931.....	149,497,392	16-5	584,407,018	64-5	172,708,285	906,612,695
932 ¹	106,385,619	18-4	351,686,775	60-8	120,445,350	578,517,744

¹ Nine months.² Preliminary figures.

7.—Percentage Proportions of Imports, from United Kingdom and United States respectively, to Totals of Dutiable and Free in the 25 fiscal years 1907-31.

NOTE.—For the years 1868 to 1906, see Canada Year Book, 1927-28, p. 499.

Fiscal Year.	United Kingdom.			United States.		
	Dutiable to Total Dutiable.	Free to Total Free.	Dutiable and Free to All Imports.	Dutiable to Total Dutiable.	Free to Total Free.	Dutiable and Free to All Imports.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1907 (9 months).....	32.05	16.04	25.79	51.93	71.28	50.50
1908.....	32.64	17.35	26.83	50.59	70.51	58.13
1909.....	29.84	16.31	24.52	51.76	70.20	59.09
1910.....	31.60	16.49	25.78	52.29	69.22	58.82
1911.....	29.82	15.05	24.34	54.14	72.05	60.84
1912.....	26.69	14.72	22.42	58.72	71.74	73.37
1913.....	24.47	13.43	20.71	62.57	69.78	65.03
1914.....	24.95	14.26	21.35	60.81	70.16	63.96
1915.....	24.31	12.61	19.79	60.27	72.85	65.13
1916.....	17.97	11.63	15.24	68.93	78.29	72.05
1917.....	16.35	8.24	12.67	71.91	86.59	78.57
1918.....	10.70	5.54	8.45	79.61	86.29	82.27
1919.....	9.50	5.90	7.97	79.10	84.74	81.50
1920.....	13.44	8.93	11.87	72.04	81.26	75.25
1921.....	20.07	11.17	17.25	64.19	79.51	69.04
1922.....	19.20	8.72	15.66	62.97	80.88	69.02
1923.....	21.61	9.49	17.61	61.85	78.66	67.41
1924.....	21.32	9.12	17.19	60.20	81.21	67.30
1925.....	24.16	9.40	18.96	55.63	79.36	64.60
1926.....	22.83	8.89	17.65	57.97	78.94	65.73
1927.....	20.44	7.81	15.90	59.52	79.53	66.73
1928.....	21.13	8.98	16.76	58.59	76.06	64.87
1929.....	18.82	8.91	15.34	63.82	77.40	68.56
1930.....	18.14	9.45	15.16	63.88	75.55	67.89
1931.....	18.91	12.31	16.49	62.65	67.59	64.46

8.—Average ad valorem Rates of Duty Collected on Dutiable and Total Imports from United Kingdom, United States and all Countries in the 64 fiscal years 1868-1931.

Fiscal Year.	U.K.		U.S.		All Countries.		Fiscal year.	U.K.		U.S.		All Countries.	
	Dutiable Im-ports.	Total Im-ports.	Dutiable Im-ports.	Total Im-ports.	Dutiable Im-ports.	Total Im-ports.		Dutiable Im-ports.	Total Im-ports.	Dutiable Im-ports.	Total Im-ports.	Dutiable Im-ports.	Total Im-ports.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1868.....	—	—	—	—	20.2	13.1	1900.....	25.6	18.2	25.0	13.2	27.7	16.7
1869.....	16.9	13.5	20.1	7.3	20.2	13.1	1901.....	24.7	18.3	24.8	12.4	27.5	16.4
1870.....	16.8	13.4	19.5	7.8	20.9	14.1	1902.....	24.0	17.2	25.2	13.2	27.3	16.5
1871.....	16.4	13.5	16.3	8.4	19.6	14.0	1903.....	23.3	16.7	24.9	13.3	27.1	16.5
1872.....	16.4	12.7	18.0	7.1	19.1	12.4	1904.....	24.1	17.6	25.2	13.6	27.5	16.8
1873.....	15.6	10.9	17.7	6.5	18.3	10.4	1905.....	24.8	18.5	26.1	13.5	27.8	16.7
1874.....	16.5	12.8	17.4	7.1	18.9	11.7	1906.....	24.6	18.7	24.8	13.1	27.0	16.5
1875.....	18.1	14.8	17.3	7.9	19.6	13.1	1907 ¹	24.3	18.4	24.2	12.8	26.5	16.8
1876.....	18.8	15.0	19.2	9.3	21.3	13.9	1908.....	24.2	18.3	24.6	13.2	26.7	16.5
1877.....	19.4	16.2	18.7	7.9	20.6	13.3	1909.....	25.8	19.0	24.9	13.2	27.5	16.7
1878.....	20.1	17.3	20.4	9.4	21.4	14.2	1910.....	25.1	18.9	24.8	13.5	26.8	16.5
1879.....	20.5	18.0	23.2	13.1	23.3	16.4	1911.....	24.6	18.9	24.7	13.7	25.9	16.2
1880.....	24.0	20.0	23.1	16.0	26.1	20.2	1912.....	25.0	19.1	25.0	14.8	26.1	16.8
1881.....	24.5	20.5	22.0	15.5	25.8	20.4	1913.....	25.1	19.6	24.9	15.8	26.1	17.1
1882.....	24.1	19.9	21.5	15.0	25.3	19.5	1914.....	25.2	19.5	24.8	15.6	26.1	17.3
1883.....	24.3	19.2	21.1	14.8	25.3	19.0	1915.....	27.1	20.5	25.1	14.2	27.4	16.9
1884.....	24.4	19.1	20.7	14.9	25.2	19.0	1916.....	28.4	19.1	25.0	13.5	27.2	15.5
1885.....	24.8	19.0	21.2	14.5	26.1	19.2	1917.....	24.9	17.6	22.7	11.4	23.8	13.0
1886.....	25.7	20.0	22.8	15.8	27.5	20.2	1918.....	24.3	17.3	20.5	11.1	21.5	12.1
1887.....	26.1	20.8	23.8	16.2	28.7	21.3	1919.....	22.3	15.3	20.9	11.6	21.5	12.3
1888.....	29.1	22.9	26.2	15.3	31.8	22.0	1920.....	22.1	16.2	22.5	14.0	22.5	14.7
1889.....	29.3	22.4	25.4	14.7	31.9	21.8	1921.....	20.9	16.6	20.3	12.9	20.6	14.1
1890.....	28.8	22.1	26.6	15.8	31.0	21.4	1922.....	24.8	20.1	23.0	13.9	24.5	16.5
1891.....	29.0	21.7	26.0	14.9	31.4	21.0	1923.....	24.5	20.1	22.5	13.8	24.9	16.7
1892.....	29.4	22.1	26.5	16.1	29.7	17.8	1924.....	22.3	18.3	22.3	13.2	22.9	15.1
1893.....	29.8	22.3	26.7	14.6	30.3	18.4	1925.....	22.1	18.2	23.1	13.0	23.3	15.1
1894.....	30.0	22.3	27.0	13.7	30.9	17.8	1926.....	21.6	18.4	23.9	13.2	24.7	15.6
1895.....	30.1	22.6	26.7	13.7	30.5	17.8	1927.....	23.9	19.7	23.1	13.2	24.1	15.4
1896.....	30.2	22.4	26.7	14.5	30.0	19.2	1928.....	25.6	20.6	23.3	13.5	24.2	15.8
1897.....	30.7	21.1	26.7	14.3	30.0	18.7	1929.....	25.9	20.6	24.4	14.1	24.4	15.8
1898.....	29.5	20.8	26.1	13.3	29.7	17.5	1930.....	25.5	20.0	23.3	14.4	24.3	15.6
1899.....	26.6	19.8	26.3	13.2	28.8	17.2	1931.....	26.9	19.5	24.8	15.2	26.0	16.4

¹Nine months.

Imports for Home Consumption of certain Raw Materials Used in Canadian Manufactures, fiscal years 1911-31.

NOTE.—For the years 1902 to 1910, see Canada Year Book, 1926, p. 463.

fiscal year.	Sugar, Raw.	Vegetable Oil for Soap Industry.	Crude Cotton- seed Oil.	Raw Rubber (including Balata).	Tobacco, Raw.	Hides and Skins.	Cotton, Raw (including Linters).	Hemp, Dressed or Undressed.	Silk, Raw, etc.
	ton.	gal.	cwt.	cwt.	lb.	\$	cwt.	cwt.	lb.
11...	271,532	297,338	—	28,035	17,204,271	8,105,330	812,622	81,017	121,748
12...	281,402	407,825	80,916	44,313	17,203,513	8,903,727	727,939	82,661	112,581
13...	310,101	393,239	243,872	56,755	22,153,588	13,486,459	774,578	64,990	75,776
14...	347,168	393,862	265,789	44,504	17,598,449	8,831,010	769,930	55,572	101,669
15...	335,820	411,797	293,849	65,045	18,595,957	12,842,558	730,325	55,370	94,458
16...	298,433	615,923	430,013	99,132	20,834,672	12,441,731	969,679	50,914	80,745
17...	365,772	1,267,174	315,621	107,580	17,702,637	12,873,970	877,634	15,846	138,765
18...	382,807	2,081,672	408,850	130,956	17,824,947	8,796,966	880,374	45,177	158,648
19...	359,470	2,390,107	459,685	192,272	25,103,080	5,427,544	1,117,235	72,837	213,441
20...	540,787	861,462	578,986	244,335	24,345,295	22,654,661	964,715	46,553	298,985
21...	347,504	1,103,672	417,301	228,062	20,007,411	10,652,787	986,315	47,090	272,508
22...	432,212	1,342,390	488,683	189,525	20,870,509	5,898,087	953,860	77,833	371,570
23...	571,728	1,928,386	258,581	253,957	14,548,694	7,947,410	1,252,615	203,844	368,022
24...	419,710	1,886,162	216,082	288,857	15,941,339	461,581 ¹	955,966	340,402	335,495
25...	419,371	1,692,724	213,201	344,509	13,712,885	502,586 ¹	1,008,793	249,032	361,403
26...	579,272	2,591,232	335,755	469,893	14,943,864	534,089 ¹	1,355,738	281,639	529,446
27...	564,779	3,177,800	297,706	502,312	17,446,774	579,085 ¹	1,497,438	123,426	679,923
28...	447,389	3,377,856	623,148	582,039	18,475,772	678,670 ¹	1,462,246	99,503	938,459
29...	409,585	3,241,587	302,197	777,169	18,726,618	507,773 ¹	1,511,270	27,390	1,282,815
30...	402,871	2,874,972	400,653	733,400	17,113,472	486,442 ¹	1,260,699	42,620	1,668,972
31...	415,090	3,080,061	174,711	595,591	16,580,394	345,439 ¹	1,067,222	28,423	1,954,395
32...	485,879	4,243,234	386,275	552,694	13,075,335	281,316	1,009,022	18,348	2,539,133
fiscal year.	Wool, Raw. ²	Noils and Worsted Tops.	Artificial Silk Rovings, Yarns, etc.	Manila Grass and Sisal.	Rags, Waste Paper and other Waste.	Iron Ore.	Alumina, Bauxite, Cryolite.	Tin in Blocks, Ingots, etc.	Crude Petroleum for Refining. ⁴
	cwt.	\$	lb.	cwt.	cwt.	ton.	cwt.	cwt.	gal.
1...	64,224	778,320	—	272,638	536,604	—	186,152	35,706	54,310,597
2...	71,954	689,304	—	290,362	564,296	—	218,998	41,740	72,231,006
3...	92,092	980,432	115,710	343,644	750,003	2,116,933	276,170	51,319	143,338,070
4...	72,521	1,072,066	129,982	189,010	716,882	1,972,207	312,259	46,076	177,879,835
5...	131,940	1,312,885	128,148	283,660	540,922	1,055,724	261,553	29,402	196,203,287
6...	211,407	2,587,949	183,278	382,233	510,472	1,595,995	385,959	32,756	186,753,081
7...	145,812	2,988,177	276,873	323,441	780,062	2,318,547	816,509	35,726	135,533,089
8...	115,380	4,418,854	160,090	491,739	505,643	2,203,506	1,664,799	38,683	191,376,057
9...	158,767	5,314,793	161,206	314,150	570,211	2,227,919	1,916,929	28,044	260,819,944
10...	117,717	5,847,787	360,297	453,853	826,593	1,632,011	451,349	44,010	298,540,725
11...	92,772	5,533,108 ³	512,109	453,754	1,142,850	1,950,291	1,198,605	42,727	311,719,057
12...	125,867	7,225,381 ³	570,450	187,521	686,483	1,656,902	166,695	27,242	391,292,960
13...	182,556	9,110,310 ³	933,791	216,818	870,542	1,044,999	792,210	39,258	397,603,716
14...	193,217	8,606,179 ³	1,239,986	268,722	1,123,282	1,807,223	1,266,799	39,837	418,791,375
15...	143,629	5,823,112 ³	1,684,811	255,317	1,232,567	911,586	1,358,148	43,535	440,671,846
16...	134,344	6,142,081 ³	1,689,730	439,699	1,307,473	1,053,593	1,336,538	44,409	470,616,511
17...	164,234	7,887,487 ³	1,516,448	519,807	1,364,897	1,445,504	1,647,244	50,858	596,466,714
18...	138,957	8,133,120 ³	1,563,020	524,124	1,371,469	1,491,234	2,663,166	48,742	709,959,837
19...	140,219	8,646,998 ³	2,240,704	745,831	1,314,494	2,272,130	3,444,911	58,928	865,335,849
20...	103,343	6,293,863 ³	2,132,362	459,588	1,606,931	2,456,919	2,738,777	56,318	1,110,169,704
21...	107,449	6,649,268 ³	2,579,587	485,442	1,254,557	1,428,970	2,221,550	49,727	994,384,918
22...	96,245	7,369,400	1,501,739	465,693	1,391,591	802,163	1,704,029	38,095	1,016,355,361

¹ Cwt. ² Includes hair of the camel, alpaca, goat, etc.
de petroleum. ³ Preliminary figures.³ Pounds.⁴ Prior to 1917 includes all

10.—Exports to the United Kingdom, to the United States and to All Countries, by Classes of Merchandise the Produce of Canada, by Values and Percentages, fiscal years 1928-31.

VALUES.

Class.	1928.			1929.			1930.			1931.		
	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United States.	United Kingdom.	All Countries.
Vegetable products (except chemicals, fibres and wood)	\$ 310,210,731	\$ 56,099,402	\$ 555,110,598	\$ 325,105,581	\$ 58,527,194	\$ 646,514,058	\$ 186,521,591	\$ 48,026,508	\$ 384,635,751	\$ 27,644,374	\$ 141,108,053	\$ 292,280,037
Animals and their products (except chemicals and fibres)	48,683,290	92,244,088	165,845,096	47,644,803	84,993,501	158,757,272	40,673,780	66,894,165	133,009,145	31,173,615	34,008,408	83,714,772
Fibres, textiles and textile products	1,896,704	4,922,004	10,904,073	810,836	4,930,498	9,678,019	976,568	3,961,130	9,066,226	1,048,955	2,068,531	6,504,182
Wood, wood products and paper	17,171,311	238,986,005	284,543,366	22,350,947	235,065,010	283,621,745	21,450,183	237,669,413	289,566,675	17,350,424	188,949,408	230,604,474
Iron and its products	8,136,972	8,831,287	62,753,934	8,721,020	11,157,421	82,256,717	6,848,000	11,635,491	78,589,580	4,073,233	6,118,120	38,937,661
Non-ferrous metals and their products	15,696,472	44,114,499	90,840,441	16,347,438	63,221,555	112,778,194	15,404,363	101,728,976	154,319,429	17,153,570	58,835,683	95,652,063
Non-metallic minerals and their products (except chemicals)	1,933,969	16,178,552	25,949,930	1,771,253	17,994,515	27,401,790	1,952,156	18,062,256	28,545,096	1,546,819	13,255,258	21,107,780
Chemicals and allied products	4,234,278	8,150,913	17,365,516	4,036,885	10,779,475	19,438,064	4,888,740	12,535,510	22,468,462	2,714,386	6,361,691	12,825,852
Miscellaneous commodities	2,698,575	8,618,633	15,036,359	2,941,722	12,342,976	18,263,813	3,030,584	13,336,314	20,057,938	3,077,474	12,359,090	18,115,846
Totals	410,691,392	478,145,383	1,228,349,343	429,730,485	499,612,145	1,363,709,672	481,745,965	515,049,763	1,120,255,302	219,246,499	349,660,563	709,742,667

PERCENTAGES OF EACH CLASS.

Class.	1928.			1929.			1930.			1931.		
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Vegetable products (except chemicals, fibres and wood)	75.53	11.73	45.20	75.65	11.71	47.41	66.18	9.49	34.33	64.36	7.91	36.55
Animals and their products (except chemicals and fibres)	11.86	19.30	13.50	11.09	17.02	11.64	14.43	12.98	11.87	14.22	9.75	10.47
Fibres, textiles and textile products	0.46	1.03	0.89	0.19	0.99	0.71	0.35	0.77	0.81	0.49	0.59	0.81
Wood, wood products and paper	4.18	49.98	23.16	5.20	47.16	21.16	7.64	46.10	25.84	7.92	54.04	28.83
Iron and its products	2.00	1.85	5.11	2.03	2.23	6.03	2.43	2.26	7.02	1.85	1.74	4.87
Non-ferrous metals and their products	3.82	9.23	7.40	3.80	12.66	8.27	5.46	19.76	13.78	7.82	16.83	11.96
Non-metallic minerals and their products (except chemicals)	0.47	3.38	2.11	0.41	3.60	2.01	0.69	3.62	2.55	0.70	3.79	2.64
Chemicals and allied products	1.03	1.70	1.41	0.94	2.16	1.43	1.74	2.43	2.01	1.23	1.82	1.60
Miscellaneous commodities	0.65	1.80	1.22	0.69	2.47	1.34	1.08	2.59	1.79	1.41	3.53	2.27

Consumption, by Values and Percentages, fiscal years 1928-31.

VALUES.

Class.	1928.			1929.			1930.			1931.		
	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.	United Kingdom.	United States.	All Countries.
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Agricultural and vegetable products (except chemicals, fibres and wood).....	51,133,838	102,209,033	238,185,560	53,670,561	103,667,472	233,130,244	51,270,282	98,752,133	227,048,817	41,762,787	67,580,381	177,628,778
Animal products (except chemicals and fibres).....	6,090,435	40,582,857	65,790,021	5,664,451	42,654,255	71,661,754	5,288,528	37,388,126	69,853,833	3,783,222	26,153,435	45,995,705
Fibres, textiles and textile products.....	71,464,176	69,430,521	186,994,462	77,021,060	81,889,787	206,439,173	68,243,821	71,997,597	185,241,252	49,207,120	48,244,419	130,717,022
Wood, wood products and paper.....	4,360,348	43,992,228	51,750,924	4,935,029	50,564,294	59,214,818	5,250,702	51,736,243	60,951,077	4,540,804	38,138,028	46,042,029
Iron and its products.....	17,725,749	233,991,420	259,575,020	18,997,316	317,089,125	346,615,810	21,639,945	284,104,438	316,878,627	18,217,736	168,362,980	154,888,443
Non-ferrous metals and their products.....	6,334,885	47,845,775	60,190,036	6,653,832	62,104,988	75,438,431	7,504,415	73,738,731	87,950,252	6,165,272	48,452,677	59,623,263
Non-metallic minerals and their products (except chemicals).....	14,467,621	117,447,897	153,049,438	12,100,661	135,154,049	166,964,231	13,601,753	149,293,985	186,496,388	12,902,472	118,984,418	153,578,659
Chemicals and allied products.....	4,422,949	22,246,232	33,572,113	4,963,687	26,202,978	37,723,046	5,428,765	26,982,460	39,907,503	4,601,666	23,201,982	35,650,772
Miscellaneous commodities.	10,436,423	41,150,207	59,848,892	10,034,784	48,685,281	68,491,584	10,942,627	53,388,324	73,945,833	8,316,313	45,288,688	62,438,022
Totals.....	186,435,824	718,896,270	1,193,956,466	194,041,381	863,012,229	1,265,679,091	186,179,738	847,442,637	1,248,273,582	149,497,392	384,407,018	906,612,695

PERCENTAGES OF EACH CLASS.

[illegible]

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
57,263	48,089	115,007	52,039	934,389	1,080,527	1,882,280	1,664,739	1
281,618	252,508	526,410	253,567	4,243,786	4,867,180	8,111,943	7,095,719	2
420,102	279,359	490,716	595,799	420,673	282,384	493,618	597,477	3
100,604	19,634	167,345	375,454	6,331,597	5,085,895	4,254,466	3,444,304	4
10,359	2,375	15,108	29,269	504,300	390,087	331,242	255,591	5
8,494	10,564	6,408	116	260,746	346,664	367,244	273,731	6
5,045	5,793	3,818	114	207,432	243,763	252,758	180,973	7
751,870	567,490	1,080,219	892,847	5,683,145	5,917,152	9,593,484	8,403,141	8
53,225	40,646	42,772	47,551	53,225	40,646	42,772	47,551	9
323,683	245,521	241,860	288,346	323,683	245,521	241,860	288,346	10
5,193,680	1,873,317	5,393,657	5,010,348	7,744,960	4,949,156	7,957,568	7,102,119	11
4,593,441	1,140,731	5,557,551	3,971,048	7,338,906	3,083,452	8,042,226	5,658,367	12
2,617,847	2,829,590	2,668,696	1,911,025	2,630,658	2,852,171	2,682,299	1,928,332	13
703,688	626,872	1,088,618	539,009	708,548	632,485	1,094,668	545,682	14
1,520	3,947,976	8,778,407	236,562	14,172,410	20,696,134	17,246,042	11,023,835	15
197	215,501	435,727	12,393	1,005,280	1,423,061	994,794	674,986	16
31,384	16,590	12,252	570	870,088	486,824	589,490	1,377,228	17
5,811,009	2,411,458	7,547,813	4,896,832	10,474,192	6,083,673	11,240,747	8,695,725	18
13,262	67,816	88,425	632,119	28,829,250	35,669,767	14,817,071	3,468,729	19
8,079	29,048	69,949	230,010	23,472,798	25,743,971	10,388,735	1,169,403	20
118,735	44,324	218,277	23,956	120,386	45,976	222,047	25,620	21
420,455	207,387	742,904	65,231	422,842	214,645	758,505	70,918	22
83,013	59,051	155,595	448,399	349,535	402,358	186,558	661,189	23
67,919	53,203	137,273	306,564	284,385	361,616	165,491	425,183	24
876,284	31,662	33,988	817,414	7,158,723	15,657,348	6,406,181	3,258,501	25
501,719	22,611	20,150	164,038	4,275,353	10,241,938	4,055,855	1,146,266	26
127,968	35,157	25,491	6,538	175,095	66,093	37,230	19,262	27
272,425	117,743	99,143	29,000	432,341	230,158	143,310	77,386	28
1,522	—	42	63	10,424,643	9,456,512	1,526,368	1,327,453	29
1,215	—	45	111	10,648,740	10,809,020	1,451,640	534,549	30
7,503,681	10,634,834	6,804,099	10,337,690	266,902,189	370,459,551	177,006,369	217,243,037	31
9,503,662	12,380,823	7,487,014	7,727,678	352,117,150	428,524,326	215,753,475	177,419,769	32
10,780,819	12,816,939	8,557,205	8,523,162	391,695,566	476,186,733	232,763,740	180,874,218	33
1,829,215	3,562,618	1,834,712	2,924,538	1,905,875	3,645,819	1,988,356	3,008,574	34
2,626,457	5,351,954	2,362,814	2,854,854	2,750,196	5,496,024	2,582,484	2,962,696	35
—	13	3	5	345,565	598,412	407,050	488,334	36
—	86	15	21	1,799,408	3,073,375	2,440,968	2,523,868	37
7,111	2,073	1,962	634	9,387,273	11,405,728	7,893,960	7,218,188	38
46,357	13,217	12,502	2,549	59,879,302	65,117,779	45,457,195	32,876,234	39
2,674,584	5,367,586	2,377,666	2,867,320	64,504,395	73,796,136	50,549,600	38,407,020	40
3,464	6,692	8,782	13,477	2,059,161	2,238,690	2,431,137	2,492,467	41
14,225,096	19,265,799	11,981,893	12,260,528	459,310,260	553,587,951	287,047,429	222,916,888	42
3,567	10,345	2,139	2,300	1,569,366	1,681,007	1,858,519	1,411,004	43
1,277	4,529	703	570	489,988	501,255	526,776	393,477	44
1,165,389	1,350,140	2,404,046	1,466,921	1,178,685	1,395,927	2,415,087	1,486,005	45
5,623	216	16,029	3,069	1,294,095	419,950	294,823	187,754	46
37,506	1,045	79,646	15,092	6,260,983	2,176,348	1,423,936	904,209	47
1,274,301	1,422,954	2,648,605	1,711,914	8,407,424	4,329,822	4,798,712	3,188,138	48
1,912	417	—	—	868,877	322,039	250,723	216,065	49
765	58	—	—	230,115	92,505	64,561	48,362	50
22,110,116	23,710,930	23,312,016	19,820,570	484,316,535	570,253,275	313,005,450	243,509,342	51

12.—Principal Exports of Canadian Produce from Canada to United

No	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
I. Agricultural and Vegetable Products—con.					
B. OTHER THAN FOOD.					
Beverages—					
1	Brewed (ale, beer).....gal.	—	—	—	18
	\$	—	—	—	42
2	Distilled—				
	Whiskey.....gal.	47,984	20,829	30,676	12,649
	\$	123,796	85,758	95,005	41,293
3	Other.....gal.	14	11	9,999	2,504
	\$	40	60	35,436	7,001
4	Fermented (wines).....gal.	178	133	164	136
	\$	336	214	247	200
	Totals, Beverages.....\$	124,172	86,032	130,688	48,540
5	Oil cake and meal.....cwt.	16,800	12,880	1,680	2,812
	\$	36,009	30,540	4,580	5,410
Rubber—					
6	Raw and waste.....\$	—	802	3,202	206
7	Belting.....lb.	154,609	218,418	384,775	365,866
	\$	47,564	75,076	126,297	112,012
8	Boots and shoes.....\$	2,354,336	3,257,835	3,370,191	2,833,638
9	Hose.....\$	35,459	29,979	30,961	34,158
10	Tires.....\$	3,750,861	1,264,697	453,579	114,667
11	Other manufactures.....\$	552,271	1,095,842	2,589,601	1,987,353
	Totals, Rubber.....\$	6,740,491	5,724,231	6,573,835	5,082,029
Seeds—					
12	Clover.....bush.	36,494	21,169	41,794	30,365
	\$	395,906	229,379	325,075	231,958
13	Flaxseed.....bush.	1,211	1,164	2,937	745,262
	\$	4,320	4,656	12,336	929,327
	Totals, Seeds ¹\$	422,232	269,986	375,300	1,186,928
Tobacco—					
14	Unmanufactured.....lb.	6,054,907	6,247,871	5,293,167	4,820,202
	\$	2,212,474	1,926,085	1,389,334	1,415,103
15	Fodders, n.o.p.....\$	707,664	999,156	322,326	94,704
16	Hay.....ton	58,400	47,621	105,184	19,240
	\$	584,414	496,307	1,398,781	259,074
17	Senega root.....lb.	4,836	100,942	183,683	19,968
	\$	4,938	115,973	160,595	10,244
	Totals, Agricultural and Vegetable Products—B. OTHER THAN FOOD ¹\$	10,896,467	9,688,496	10,389,237	8,123,885
	Totals, Agricultural and Vegetable Products ¹\$	310,210,731	325,105,581	186,521,591	141,108,053
II. Animals and Animal Products.					
Animals, Living—					
18	For exhibition.....\$	—	7,050	150	4,123
19	For improvement of stock.....\$	1,592	435	1,022	603
Other—					
20	Cattle, 1 year old or less.....No.	—	—	—	—
	\$	—	—	—	—
21	Cattle more than 1 year old.....No.	1,222	405	—	6,223
	\$	130,140	61,770	—	623,465
22	Horses.....No.	4	2	7	25
	\$	11,900	250	1,700	5,006
23	Poultry.....No.	—	—	—	10,561
	\$	—	—	—	2,814
24	Sheep.....No.	—	—	—	—
	\$	—	—	—	—
25	Swine.....No.	—	—	—	—
	\$	—	—	—	—
26	Foxes.....No.	25	121	200	194
	\$	11,180	34,950	53,820	50,700
	Totals, Animals, Living ¹\$	156,250	110,580	66,821	692,921
27	Bones, horns and hoofs.....\$	—	493	—	—

¹Totals include other items not specified.

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
II. Animals and Animal Products—continued.					
Fishery Products, n.o.p.—					
Fish—					
Fresh—					
1	Halibut.....cwt.	—	499	—	—
	\$	—	5,000	—	—
2	Herrings.....cwt.	—	—	—	—
	\$	—	—	—	—
3	Lobsters.....cwt.	—	—	—	—
	\$	—	—	—	—
4	Salmon or lake trout.....cwt.	—	—	—	111
	\$	—	—	—	1,333
5	Mackerel.....cwt.	—	—	—	—
	\$	—	—	—	—
6	Salmon.....cwt.	11,110	15,126	21,935	31,996
	\$	257,839	277,366	454,112	641,383
7	Smelts.....cwt.	—	—	—	—
	\$	—	—	—	—
8	Tullibee.....cwt.	252	—	—	—
	\$	2,520	—	—	—
9	Whitefish.....cwt.	—	—	—	—
	\$	—	—	—	—
	Totals, Fish, Fresh ¹ \$	260,804	283,247	454,126	642,831
Canned—					
10	Clams.....cwt.	—	7	10	3
	\$	—	122	157	52
11	Codfish, boneless.....cwt.	—	11	—	—
	\$	—	140	—	—
12	Lobsters.....cwt.	25,131	22,971	28,650	22,060
	\$	1,720,888	1,453,569	1,765,971	1,274,778
13	Salmon.....cwt.	136,947	103,857	90,829	144,612
	\$	3,401,204	1,902,627	1,857,726	3,116,037
14	Sardines.....cwt.	292	52	200	—
	\$	2,609	472	1,920	—
	Totals, Fish, Canned ¹ \$	5,124,701	3,357,935	3,625,958	4,390,867
Dried, Salted, Smoked or Pickled—					
15	Codfish, dried.....cwt.	3,589	8,086	629	1,143
	\$	29,058	65,830	6,657	9,929
16	Codfish, pickled.....cwt.	—	—	—	—
	\$	—	—	—	—
17	Codfish, smoked.....cwt.	—	—	—	—
	\$	—	—	—	—
18	Haddock.....cwt.	10	—	35	4
	\$	81	—	352	20
19	Herring, sea—	—	—	—	—
	Dry-salted.....cwt.	—	—	—	—
	\$	—	—	—	—
20	Pickled.....cwt.	—	—	—	4
	\$	—	—	—	13
21	Smoked.....cwt.	25	15	20	12
	\$	188	65	150	72
22	Mackerel, pickled.....cwt.	—	—	—	—
	\$	—	—	—	—
23	Pollock, hake and cusk, dried.....cwt.	—	—	4	—
	\$	—	—	16	—
24	Salmon, dry-salted (chum).....cwt.	—	2	—	—
	\$	—	30	—	—
25	Salmon, pickled.....cwt.	150	£31	736	2 3
	\$	1,806	11,392	20,502	6,186
	Totals, Fish, Dried, Salted, Smoked or Pickled ¹ \$	31,449	77,317	27,677	16,220
	Totals, Fishery Products, n.o.p. ¹ \$	5,418,787	3,719,872	4,107,761	5,051,110

¹Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
32,135	49,151	41,736	34,697	32,366	49,950	41,919	34,918	1
429,749	614,174	570,535	440,046	424,303	622,636	572,896	443,066	
293,370	382,925	307,544	190,717	293,767	383,377	309,912	190,995	2
745,215	571,599	448,624	411,838	747,872	574,807	455,587	413,601	
43,370	54,407	81,207	97,394	43,370	54,407	81,210	97,394	3
1,347,865	1,612,966	2,318,109	2,208,189	1,347,865	1,612,966	2,318,133	2,208,189	
46,171	47,637	45,644	34,365	46,171	47,637	45,644	34,482	4
511,247	564,149	524,606	369,917	511,247	564,149	524,606	371,352	
14,257	25,249	16,001	10,772	14,257	25,249	16,001	10,774	5
127,319	180,069	106,619	60,225	127,319	180,069	106,619	60,241	
82,458	62,437	45,868	50,954	78,105	84,714	76,983	94,353	6
654,733	660,064	635,323	698,202	974,850	1,051,199	1,225,013	1,496,824	
72,104	73,355	53,040	64,877	72,124	73,372	53,055	64,887	7
1,029,199	1,091,751	803,266	832,814	1,029,501	1,091,993	803,548	832,984	
92,427	96,960	74,167	36,110	92,679	96,960	74,167	36,110	8
528,874	718,681	620,428	267,420	531,394	718,681	620,428	267,420	
112,097	116,840	113,407	94,443	112,097	116,840	113,407	94,443	9
1,387,607	1,516,094	1,500,814	1,095,617	1,386,607	1,516,094	1,500,814	1,095,617	
10,161,789	10,793,156	10,825,680	9,436,690	10,524,343	11,257,772	11,484,241	10,292,840	
10,711	11,721	13,979	5,825	10,767	11,749	14,029	5,925	10
144,910	171,104	215,501	99,024	145,675	171,524	216,214	100,293	
18,073	27,504	28,168	19,233	18,397	27,581	28,313	19,523	11
182,386	238,369	279,619	192,292	185,665	239,281	281,159	195,466	
14,882	14,626	13,698	13,153	47,687	47,085	54,883	54,289	12
963,098	915,360	856,514	737,468	3,319,623	3,014,735	3,456,379	3,048,713	
3,112	793	144	92	574,496	651,100	477,769	427,387	13
51,333	8,539	1,753	1,036	9,151,062	9,108,342	8,302,468	6,317,741	
262	2	1	—	59,219	47,538	62,185	37,780	14
2,499	68	32	—	548,495	469,841	623,824	359,087	
1,374,048	1,407,221	1,358,382	1,037,036	13,528,872	13,272,129	13,067,116	10,117,022	
122,712	120,293	103,738	89,745	625,983	541,725	531,998	403,345	15
899,061	1,068,944	965,804	750,778	4,555,545	4,784,829	4,828,643	3,195,190	
55,810	80,784	72,827	100,733	55,872	80,903	83,242	105,887	16
241,848	374,545	349,726	440,699	242,172	375,073	388,207	459,058	
21,830	18,120	12,755	8,494	21,947	18,339	12,894	8,678	17
255,213	223,512	172,044	106,444	256,753	227,179	173,705	108,837	
20,514	23,442	20,873	18,339	38,757	42,505	40,608	36,971	18
148,661	189,068	188,997	177,899	261,389	321,596	331,221	299,863	
64	10	25	1,409	1,080,491	1,157,139	1,082,985	771,998	19
194	33	136	4,356	2,019,466	1,998,482	1,983,073	1,279,775	
24,103	17,341	20,298	11,275	62,554	55,186	48,613	47,584	20
80,752	76,300	84,506	45,357	184,457	172,943	184,819	171,672	
37,961	35,997	26,262	17,170	85,779	76,760	73,653	67,253	21
144,125	162,823	117,039	58,354	256,733	310,781	297,645	230,525	
9,804	12,082	11,488	14,728	50,796	63,281	79,128	90,894	22
85,254	101,741	86,422	88,325	327,184	397,015	483,436	492,985	
3,704	9,626	7,482	4,430	40,635	53,235	58,278	45,633	23
18,650	53,898	42,402	20,941	229,347	320,597	372,478	267,735	
20	25	3,010	41	97,649	211,600	107,015	123,449	24
95	100	3,398	151	363,608	775,295	330,357	359,367	
12,856	8,022	8,163	7,634	25,428	24,210	22,785	22,446	25
302,291	173,833	189,180	123,667	560,799	540,313	545,530	403,654	
2,237,538	2,551,374	2,324,676	1,883,153	9,417,469	10,399,712	10,152,994	7,427,499	
13,973,579	15,513,738	14,928,048	12,953,060	34,546,646	36,156,069	35,687,027	28,894,983	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
II. Animals and Animal Products—continued.					
Furs, Hides and Leather—					
Furs—					
1	Undressed—				
	Beaver..... No.	56,076	36,510	37,022	30,122
2		\$	1,557,031	952,143	1,074,736
	Fox, black and silver..... No.	12,469	19,765	28,871	65,618
3		\$	1,191,672	1,915,774	2,039,252
	Fox, other..... No.	53,755	32,028	30,359	39,445
4		\$	1,772,275	1,331,563	1,517,531
	Marten..... No.	30,092	25,595	22,353	17,650
5		\$	725,677	748,940	723,603
	Mink..... No.	56,077	36,315	51,467	56,260
6		\$	962,794	614,357	971,480
	Muskrat..... No.	515,325	1,337,590	1,436,962	1,153,549
7		\$	954,903	2,052,505	1,847,337
	Other..... \$	1,984,850	2,422,568	2,140,254	999,786
8	Dressed..... \$	10,385	3,728	3,395	17,832
	Manufactures..... \$	25,613	20,451	18,314	12,961
	Totals, Furs..... \$	9,185,200	10,062,029	10,335,902	8,136,610
10	Hair..... \$	106,620	123,929	85,662	13,047
Hides and Skins, Raw—					
11	Calf..... cwt.	—	19	—	—
		\$	—	370	—
12	Cattle..... cwt.	—	643	—	12,794
		\$	—	8,059	—
13	Horse..... cwt.	—	—	—	91,943
		\$	—	—	—
14	Sheep..... cwt.	—	48	—	—
		\$	—	2,627	—
	Totals, Hides and Skins ¹ \$	—	11,866	8,334	92,337
Leather, Unmanufactured—					
15	Harness..... \$	—	—	—	—
16	Sole..... lb.	1,103,505	1,703,244	819,195	292,024
		\$	492,773	645,434	287,384
17		\$	1,950,591	1,357,797	902,989
	Upper..... \$	—	—	—	923,789
	Totals, Leather, Unmanufactured ¹ .. \$	2,452,900	2,011,513	1,201,162	1,062,592
Leather, Manufactured—					
18	Boots and shoes..... \$	29,475	26,764	12,556	12,480
		\$	—	—	—
	Totals, Leather and Manufactures of ¹ \$	2,495,792	2,064,514	1,276,017	1,125,073
Meats—					
Fresh—					
19	Beef..... cwt.	1,065	66	—	2,889
		\$	8,575	2,452	—
20	Mutton..... cwt.	97	—	—	25,039
		\$	1,915	—	—
21	Pork..... cwt.	11,416	4,707	36	966
		\$	212,739	91,930	637
22	Poultry..... \$	16,687	62,157	46,852	15,160
		\$	—	—	9,707
Cured, Canned or Prepared—					
23	Bacon and hams..... cwt.	517,300	329,754	241,324	105,249
		\$	10,241,395	6,636,497	5,555,743
24	Beef, pickled..... cwt.	—	—	—	2,278,616
		\$	—	—	—
25	Canned meats..... lb.	224,508	183,610	45,349	64,559
		\$	95,843	76,822	10,984
26	Pork, dry-salted..... cwt.	36,745	9,324	46,274	14,164
		\$	687,541	176,112	921,379
27	Pork, pickled..... cwt.	118	141	18	5,839
		\$	2,857	2,001	283
28	Soups, all kinds..... \$	247,038	343,656	559,582	127,821
		\$	—	—	26
	Totals, Meats ¹ \$	11,741,991	7,519,384	7,169,425	591
					619,840
					3,211,075

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
86,466	79,445	44,890	46,467	143,969	118,145	84,206	78,540	1
2,460,946	2,152,918	1,299,410	973,066	4,043,084	3,156,712	2,426,613	1,664,064	2
4,451	2,989	1,348	6,604	21,338	30,290	35,618	95,034	3
418,292	331,246	113,394	336,707	2,090,131	3,037,367	2,575,905	4,599,661	4
71,577	47,357	31,024	24,127	126,029	79,898	63,841	64,131	5
2,369,848	1,802,086	1,007,979	664,410	4,165,419	3,156,205	2,577,010	2,235,269	6
25,609	21,939	9,511	8,575	56,033	48,192	32,409	26,568	7
687,746	691,272	278,936	174,860	1,420,809	1,458,195	1,019,317	549,502	8
70,205	77,309	43,615	66,507	128,287	115,194	97,019	124,339	9
1,192,249	1,712,220	806,990	839,764	2,180,472	2,345,194	1,825,222	1,487,894	10
944,001	709,849	574,724	496,344	1,479,353	2,137,349	2,091,507	1,704,501	11
1,980,626	1,056,417	821,759	390,963	2,972,477	3,252,169	2,782,262	1,264,892	12
5,058,637	5,347,223	3,274,814	2,088,253	7,150,841	7,844,330	5,499,982	3,135,531	13
98,884	91,711	57,282	32,104	179,174	176,944	104,180	78,753	14
68,523	95,843	89,643	52,652	112,837	137,838	135,609	78,232	15
14,335,751	13,280,936	7,750,207	5,552,779	24,315,244	24,564,954	18,946,100	15,093,798	16
387,056	273,012	286,417	220,750	598,426	471,359	465,874	324,789	17
102,494	85,611	65,881	53,440	102,984	86,697	66,709	55,371	18
2,255,497	2,220,995	1,295,396	824,825	2,266,606	2,250,727	1,314,781	854,889	19
469,839	359,093	441,830	202,337	484,625	370,620	450,081	234,186	20
8,317,880	6,269,932	5,711,296	1,996,189	8,601,855	6,472,291	5,842,008	2,264,891	21
17,059	20,101	32,691	18,569	17,059	20,101	32,691	18,569	22
189,708	219,476	243,389	104,003	189,708	219,476	243,389	104,003	23
30,139	20,487	14,175	7,470	30,176	20,535	14,176	8,130	24
577,399	453,666	248,276	82,520	579,899	456,293	248,296	87,935	25
11,416,611	9,244,131	7,572,463	3,048,355	11,714,357	9,479,691	7,730,914	3,352,967	26
532,118	1,004,098	685,157	369,290	540,609	1,011,957	691,426	374,034	27
7,569,827	5,466,055	3,955,491	2,663,178	9,112,079	7,647,822	5,352,068	3,196,096	28
2,965,413	2,470,561	1,458,481	888,791	3,658,820	3,343,558	1,967,055	1,100,933	29
4,713,807	3,547,801	2,619,897	1,391,562	6,961,829	5,157,194	3,777,127	2,555,751	30
8,239,781	7,091,188	4,812,320	2,672,487	11,203,404	9,591,900	6,496,951	4,077,664	31
206,585	287,441	284,844	117,287	281,014	383,186	373,726	202,018	32
8,850,754	8,005,875	5,509,521	3,169,512	11,923,780	10,656,167	7,383,375	4,758,336	33
495,063	411,532	258,285	29,233	532,758	432,856	284,113	61,168	34
6,566,780	6,604,512	4,115,626	465,473	7,021,119	6,990,868	4,592,786	915,813	35
15,622	8,781	3,064	12	18,433	11,644	5,337	2,535	36
323,383	200,856	72,404	191	381,282	260,849	121,104	48,105	37
83,053	72,137	30,938	7,455	97,282	79,464	33,808	11,217	38
1,629,428	1,460,009	621,682	189,526	1,886,823	1,595,246	677,094	254,838	39
64,865	50,671	44,781	7,324	158,506	169,384	164,597	90,014	40
42,866	29,784	20,046	11,624	568,447	366,582	267,026	121,770	41
1,481,300	1,054,895	859,715	498,961	11,940,909	7,874,026	6,579,726	2,914,273	42
45,246	7,195	9,010	1,256	47,405	7,775	9,078	2,073	43
403,582	106,212	135,066	21,668	427,267	113,855	138,083	28,266	44
48	495	16,417	15,555	307,968	250,831	138,923	154,806	45
10	149	3,213	2,522	117,287	93,759	31,999	34,019	46
33	—	6	32	39,047	13,002	50,808	7,057	47
437	—	235	1,100	732,253	250,485	1,005,186	154,553	48
10,069	903	1,089	5,915	27,152	10,061	22,169	28,364	49
195,765	18,887	21,984	131,674	401,338	123,917	234,581	339,976	50
297	20	143	58	248,493	353,730	573,925	633,363	51
11,288,594	10,382,736	6,446,315	1,678,486	24,472,478	19,184,930	15,030,671	6,104,976	52

12.—Principal Exports of Canadian Produce from Canada to United Kingdom

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
II. Animals and Animal Products—concluded.					
Milk and Its Products—					
1	Cream, fresh..... gal.	324	714	—	—
	\$	926	1,583	—	—
2	Milk, fresh..... gal.	—	—	—	—
	\$	—	—	—	—
3	Butter..... cwt.	470	19	8	117
	\$	15,450	841	338	3,266
4	Cheese..... cwt.	892,188	1,025,387	831,562	736,266
	\$	17,827,648	22,639,647	16,224,694	11,896,727
5	Milk powder..... cwt.	28,152	36,631	41,295	42,625
	\$	246,659	290,599	340,230	398,796
6	Milk, condensed..... cwt.	19,660	16,295	13,076	8,560
	\$	195,520	158,864	128,181	81,697
7	Milk, evaporated..... cwt.	84,897	49,738	17,832	13,534
	\$	695,767	445,993	157,499	115,142
	Totals, Milk and Its Products ¹ \$	18,981,970	23,537,527	16,859,942	12,496,600
Oils, Fats, Greases and Wax—					
8	Animal oils..... gal.	757	—	—	366
	\$	700	—	—	401
9	Fish, whale, etc., oils..... gal.	—	2,149	48,951	592,582
	\$	—	927	13,405	110,213
10	Grease and scraps..... cwt.	—	—	—	—
	\$	—	—	—	—
11	Lard..... cwt.	13,457	291	11,633	1
	\$	176,250	4,330	138,708	20
12	Lard compound..... cwt.	—	20	49	1
	\$	—	300	573	6
13	Tallow..... cwt.	22	—	86	—
	\$	175	—	558	—
	Totals, Oils, Fats, Greases and Wax ¹ \$	177,125	6,652	154,418	118,553
14	Eggs..... doz.	336,562	782,910	909,550	26,260
	\$	121,269	264,880	337,812	9,601
15	Honey..... lb.	582,137	346,271	1,218,044	1,275,770
	\$	65,740	33,382	134,254	181,732
16	Sausage casings..... \$	192,007	121,961	83,628	49,772
17	Tankage..... cwt.	—	—	—	—
	\$	—	—	—	—
	Totals, Animals and Animal Products ¹ \$	48,683,290	47,644,803	40,673,780	31,173,614
III. Fibres and Textiles.					
Cotton—					
18	Duck..... yd.	53,473	69,137	71,464	56,733
	\$	34,308	36,021	38,526	24,911
19	Underwear..... \$	31,244	19,768	32,050	29,872
	Totals, Cotton ¹ \$	423,532	127,232	218,175	203,266
20	Flax, hemp and jute..... \$	663	4,766	2,441	899
21	Silk..... \$	856	1,980	999	1,122
Wool—					
22	Raw..... lb.	2,611,304	646,917	1,044,193	681,266
	\$	719,521	210,570	222,029	99,353
	Totals, Wool ¹ \$	733,298	222,550	234,517	113,922
23	Artificial silk..... \$	327,296	5,944	777	437
24	Rags..... cwt.	23,827	23,267	25,980	16,666
	\$	237,356	246,587	286,013	143,711
25	Binder twine..... cwt.	1,120	—	2,737	38,306
	\$	11,983	—	32,258	383,044
26	Bags, textile..... \$	49,789	64,531	40,762	26,044
27	Felt, mfrs..... \$	73,707	84,936	112,931	124,822
28	Corsets and brassieres..... No.	7,374	8,962	6,018	3,656
	\$	12,915	18,145	12,901	9,944
29	Gloves, etc., textile..... \$	—	2,675	7,119	8,353
30	Socks and stockings..... \$	3,554	4,373	1,500	15,566
	Totals, Fibres and Textiles ¹ \$	1,896,794	810,836	976,568	1,048,922

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
4,016,561	2,833,640	2,293,270	1,121,974	4,017,796	2,834,354	2,293,330	1,121,974	1
7,118,254	5,225,429	4,679,804	2,168,849	7,119,925	5,227,012	4,679,984	2,168,849	
3,624,794	3,753,871	3,099,754	1,208,478	3,624,794	2,753,871	3,099,754	1,208,478	2
721,557	833,678	699,190	239,814	721,557	833,678	699,190	239,814	
2,661	2,314	207	702	26,433	18,892	13,094	11,629	3
101,252	71,032	8,763	17,016	1,053,553	764,836	543,851	389,419	
125,335	74,119	67,867	32,701	1,052,126	1,126,092	522,937	795,904	4
2,444,452	1,869,525	1,498,833	546,691	21,100,625	25,181,853	18,278,004	12,989,726	5
36,315	10,471	6,416	8,547	67,255	50,147	50,145	55,088	
348,969	247,479	181,127	149,660	629,057	608,466	579,102	645,327	6
8,916	19,392	10,117	13,964	209,750	207,869	154,795	119,443	
80,069	180,182	98,426	115,783	2,456,337	2,364,967	1,731,849	1,361,304	7
10,504	1,240	2,103	5	108,632	78,548	84,985	85,640	
91,588	10,687	18,306	45	904,186	747,312	951,150	977,825	
10,934,600	8,473,375	7,205,673	3,249,421	34,025,435	35,763,487	27,484,354	18,787,543	
93,390	11,554	3,048	22,127	233,028	124,721	56,425	152,891	8
114,243	11,631	2,935	17,375	275,192	131,292	52,258	125,152	
2,329,274	3,345,625	3,309,291	2,434,162	2,342,847	4,098,518	3,545,725	3,039,524	9
985,628	1,428,764	1,290,373	661,801	993,225	1,742,272	1,380,589	776,419	
15,593	15,330	15,486	17,291	30,069	24,621	19,739	18,876	10
52,971	51,010	25,000	16,036	178,434	134,641	59,290	23,796	
550	1	3	48	36,379	6,930	13,557	1,720	11
7,329	22	31	360	508,523	102,020	172,856	24,841	
8	25	663	73	13,925	2,983	2,682	5,392	12
95	320	6,408	742	168,862	39,681	33,457	50,386	
30,262	30,619	7,057	3,167	30,453	32,179	8,513	3,341	13
236,383	255,487	51,092	15,890	238,453	270,228	69,347	17,654	
1,399,002	1,747,436	1,380,262	712,204	2,365,144	2,421,434	1,776,910	1,038,425	
18,786	5,043	61,051	1,489	517,991	919,767	1,158,835	186,936	14
6,749	1,892	20,187	536	194,121	319,169	429,280	66,122	
41,706	29,251	55,573	37,448	2,097,023	1,168,556	1,710,055	1,752,628	15
5,572	3,328	6,278	4,203	187,237	96,643	175,807	167,505	
706,012	881,320	504,131	381,584	1,251,890	1,405,745	955,933	646,096	16
304,539	260,973	267,322	209,511	304,539	260,973	267,343	209,721	17
698,948	599,370	581,025	363,557	698,948	599,370	581,090	364,173	
92,244,088	84,993,501	66,894,165	34,068,408	165,845,096	158,757,272	133,009,145	83,714,772	
648	783	198	2,445	502,808	488,800	545,986	350,261	18
288	1,151	980	8,571	267,584	238,437	272,117	210,036	
3,219	126	633	40	148,013	163,764	184,584	163,158	19
65,750	35,538	19,917	26,795	1,009,560	701,806	842,588	763,679	
51,703	34,999	20,706	9,034	81,804	49,583	31,072	15,974	20
6,823	7,463	14,487	7,442	137,358	124,610	153,280	96,416	21
8,254,566	7,039,910	5,088,598	2,687,151	11,140,101	7,840,927	6,272,016	3,557,823	22
2,351,662	2,530,420	1,317,004	281,815	3,149,967	2,796,987	1,576,342	424,492	
2,414,259	2,625,865	1,434,381	405,086	3,506,838	3,256,693	2,025,655	872,582	
4,892	49,839	4,166	4,152	551,918	245,231	228,809	219,744	23
263,636	250,529	224,613	110,921	311,128	286,639	264,771	133,402	24
1,376,004	1,401,590	1,216,533	403,456	1,766,465	1,800,885	1,632,278	602,841	
69,226	53,904	84,634	80,987	187,498	128,834	136,178	138,750	25
823,158	573,152	965,295	920,430	2,053,015	1,317,290	1,502,421	1,502,839	
19,116	1,662	4,438	578	132,654	132,364	101,894	66,937	26
23,537	10,755	12,568	4,404	486,898	561,327	653,514	614,848	27
10	462	99	76	143,700	124,457	119,234	86,883	28
8	367	186	115	161,516	149,513	126,903	107,468	
446	604	593	1,234	164,707	206,091	216,376	136,253	29
950	765	651	668	267,012	464,794	826,425	866,591	30
4,922,004	4,930,498	3,961,130	2,068,531	10,904,073	9,678,019	9,066,226	6,504,182	

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
37,285	30,908	35,544	21,962	162,442	156,211	81,747	46,338	1
563,759	482,954	524,081	227,724	1,997,638	2,030,869	1,127,783	489,395	
172,950	119,288	135,795	129,534	203,867	172,335	182,876	191,085	2
2,532,358	1,871,128	1,955,029	1,584,215	2,986,858	2,617,938	2,550,134	2,320,773	
770,227	855,221	942,008	862,246	770,668	855,372	944,606	855,251	3
3,324,007	3,443,283	3,907,649	3,601,464	3,327,773	3,444,631	3,917,536	3,610,531	
726,961	663,294	782,764	535,207	1,030,089	1,110,557	1,447,754	1,355,016	4
684,297	586,590	664,360	494,005	851,598	909,159	1,104,835	987,351	
7,320,347	6,557,048	7,337,085	6,128,426	9,506,796	9,344,088	9,115,082	7,719,251	
52,191	43,460	45,915	33,694	53,213	44,760	46,974	34,532	5
2,124,807	1,840,857	1,847,315	1,223,545	2,169,740	1,893,753	1,904,873	1,262,949	
366,134	317,664	402,912	336,898	559,571	477,047	594,463	518,114	6
6,813,460	5,906,455	7,686,430	5,111,138	11,168,450	9,517,201	12,051,549	8,527,885	
81,886	102,441	129,998	67,637	108,532	132,975	148,868	89,790	7
1,454,374	1,764,935	2,100,116	837,808	2,042,315	2,440,246	2,447,164	1,160,147	
332,929	259,029	267,846	154,003	376,672	303,887	305,558	185,419	8
10,598,565	8,659,259	9,046,821	4,991,398	13,164,201	11,200,589	11,089,220	6,668,330	
659,207	526,455	497,717	344,905	801,640	623,087	592,740	409,337	9
17,691,496	14,617,055	13,827,106	9,056,616	21,547,519	17,201,126	16,411,999	10,839,240	
1,565,653	1,317,167	1,419,337	975,219	2,010,623	1,696,110	1,807,138	1,309,483	10
42,519,884	36,378,168	38,399,785	22,935,928	55,397,621	47,663,849	49,446,887	31,598,202	
9,118	8,659	15,498	10,086	134,607	177,365	196,036	115,727	11
180,360	172,125	300,419	181,966	2,779,549	3,500,489	3,859,334	1,976,056	
1,435	1,184	2,311	1,141	8,932	6,008	5,889	5,141	12
39,460	38,706	64,489	37,878	427,286	353,426	375,975	277,642	
1,353,891	1,219,996	699,021	410,019	1,362,339	1,224,876	707,855	414,973	13
6,469,913	5,999,341	3,059,056	1,252,021	6,499,328	6,024,035	3,095,417	1,260,274	
53,134	41,001	45,166	34,475	53,597	41,213	45,411	34,661	14
485,431	385,070	399,913	315,737	495,391	389,598	404,62	319,215	
2,035,510	2,005,589	1,668,858	1,143,477	2,071,295	2,043,137	1,696,433	1,161,760	15
6,712,637	7,663,419	6,599,361	3,429,148	6,820,246	7,793,271	6,704,494	3,489,164	
20,813	14,508	13,729	8,852	671,069	610,580	856,986	554,477	
56,661,352	50,778,922	48,983,499	28,235,294	73,628,619	66,712,335	65,283,253	39,761,734	
1,501,612	1,406,583	1,345,692	1,164,555	1,501,612	1,406,583	1,345,692	1,164,555	16
15,182,842	14,187,100	13,860,209	12,040,484	15,182,842	14,187,100	13,860,209	12,040,484	
2,726	2,390	9,628	23,141	331,343	642,963	697,987	521,318	17
79,833,562	72,312,271	70,947,960	47,119,304	99,370,516	91,675,675	89,717,326	60,744,984	
76,443	58,422	14,318	8,877	206,889	282,171	167,015	134,849	18
3,440,720	3,056,989	2,506,849	1,459,542	3,442,484	3,103,669	2,582,898	1,482,008	
10,248,339	9,054,489	7,233,335	4,569,840	10,253,803	9,181,924	7,442,299	4,627,136	19
3,594,330	3,764,479	4,064,853	3,716,079	4,858,139	5,064,582	5,270,202	4,634,136	
13,582,187	14,263,297	14,968,712	12,574,542	18,608,237	19,334,364	19,871,813	16,122,124	20
3,345,966	3,389,739	3,491,476	2,583,991	3,973,236	4,097,438	4,150,839	3,345,575	
8,716,771	8,525,946	8,731,699	6,370,115	10,381,466	10,223,379	10,242,265	7,997,022	21
3,472,920	3,334,694	3,944,792	3,463,432	5,106,726	4,062,998	4,495,687	3,872,092	
4,780,423	4,492,547	5,665,837	4,917,335	7,529,975	5,541,243	6,482,354	5,540,973	22
505,820	615,875	761,513	390,299	505,820	621,478	762,328	401,659	
487,754	605,316	665,412	332,777	487,754	614,807	666,227	345,061	23
14,359,756	14,161,776	14,769,483	11,706,377	17,886,405	16,950,165	17,261,954	13,862,122	
37,815,474	36,941,595	37,264,995	29,018,865	47,261,235	44,895,717	44,704,958	35,061,689	
28,822	52,444	40,095	30,292	296,778	381,734	342,428	270,252	24
170	43	-	-	385,685	392,632	500,240	494,157	
38,088,347	37,487,667	37,684,939	29,129,824	49,048,356	47,166,122	46,874,140	36,624,477	25
117,971,909	109,799,938	108,632,899	76,249,128	148,418,872	138,841,797	136,591,466	97,309,461	

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
IV. Wood, Wood Products and Paper—con.					
	Paper, n.o.p.—				
1	Paper board..... \$	839,509	696,962	803,377	779,750
2	Book paper..... cwt. \$	2,702	3,922	3,626	4,416
		28,316	44,740	45,287	48,195
3	Newsprint..... cwt. \$	898,103	3,136,427	3,370,066	2,422,496
		2,889,786	9,711,867	9,265,221	6,956,639
4	Wrapping paper..... cwt. \$	54,114	61,476	57,129	43,089
		272,864	310,446	291,741	218,575
5	Bond and writing paper..... cwt. \$	177	9	20	363
		1,351	225	495	3,170
6	Wall paper..... roll \$	1,365,206	642,713	391,090	258,149
		232,590	108,990	69,241	50,096
7	Roofing paper..... \$	119,071	8,874	—	—
8	Waste paper..... cwt. \$	—	—	—	—
	Totals, Paper, n.o.p. ¹ \$	4,486,042	10,964,961	10,544,613	8,218,016
	Books and Printed Matter—				
9	Books..... \$	24,326	29,788	20,497	23,880
10	Newspapers, etc..... \$	116,219	156,550	163,635	152,901
	Totals, Wood, Wood Products and Paper ¹ \$	17,171,311	22,350,947	21,450,183	17,350,424
V. Iron and Its Products.					
	Pigs, Ingots, Blooms and Billets—				
11	Ferro-manganese and ferro-silicon..... ton \$	—	—	—	—
	Totals, Pigs, Ingots, Blooms and Billets ¹ } ton \$	—	—	—	—
12	Scrap iron..... ton \$	578	335	1,213	710
		10,605	7,994	16,001	12,390
13	Castings..... \$	23,828	25,185	20,825	194
	Rolling-mill Products—				
14	Bars and rods..... ton \$	1,525	116	56	36
		61,240	11,889	6,785	4,373
15	Rails..... ton \$	1	—	—	—
		62	—	—	—
16	Structural steel..... ton \$	—	—	—	—
	Totals, Rolling-mill Products ¹ \$	61,302	11,889	6,785	4,373
17	Pipe and tubing..... \$	119,603	79,610	171,306	138,407
18	Wire..... \$	215,084	160,814	181,136	107,719
19	Engines and boilers..... \$	8,157	5,871	2,483	4,320
	Farm Implements and Machinery—				
20	Cream separators..... \$	11,701	4,015	—	1,932
21	Harvesters..... No. \$	758	189	396	280
		128,148	31,489	65,306	49,198
22	Hay rakes..... No. \$	365	—	60	27
		11,507	—	2,192	990
23	Mowers..... No. \$	1,831	925	1,056	191
		111,645	60,268	66,158	10,876
24	Reaper-threshers..... No. \$	—	1	1	1
		—	1,094	1,283	1,341
25	Cultivators..... No. \$	351	65	12	47
		9,521	3,901	1,157	3,488
26	Drills..... No. \$	239	109	266	147
		21,839	10,733	26,336	15,932
27	Harrows..... \$	10,412	23,525	21,648	5,135
28	Ploughs..... \$	39,685	33,754	22,412	15,923
29	Threshing machines..... \$	2,538	1,460	1,516	—
30	Spades and shovels..... \$	—	3	14	613
31	Parts..... \$	197,468	199,009	185,641	149,964
	Totals, Farm Implements and Machinery ¹ \$	638,584	448,376	459,143	332,893

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
1,427,607	1,247,759	1,335,391	888,086	2,657,186	2,311,423	2,506,496	2,002,946	1
45	57	2	139	104,481	80,384	62,028	34,237	2
1,215	1,370	20	2,061	718,723	656,316	547,040	310,789	3
36,411,593	39,202,329	43,053,808	38,855,192	39,417,522	45,264,586	49,800,821	44,848,479	4
118,404,904	123,097,724	126,288,591	110,783,516	128,507,101	142,343,064	145,610,519	127,352,706	5
128	8,485	9,213	13,082	294,699	331,518	302,384	282,395	6
966	16,220	18,198	22,039	1,642,972	1,814,166	1,655,568	1,416,482	7
19	83	272	199	13,036	4,419	3,403	2,687	8
707	3,300	6,673	2,997	107,918	41,226	33,255	23,203	9
126,528	172,204	137,195	163,736	3,551,385	2,706,413	2,716,519	1,665,046	10
25,877	35,994	31,466	38,622	511,748	365,696	399,516	250,212	11
1,216	434	2,498	58	227,536	99,390	62,038	109,350	12
357,424	380,494	383,631	285,966	357,815	380,977	384,446	286,220	13
327,342	345,003	292,261	180,468	327,698	345,646	292,996	180,785	14
120,209,438	124,898,461	128,081,602	111,973,779	134,985,777	148,394,868	151,509,623	132,038,737	15
114,871	114,732	131,107	119,404	167,195	174,141	188,052	166,834	16
686,035	848,538	819,289	603,716	964,768	1,200,694	1,264,276	1,023,369	17
238,986,005	235,665,010	237,669,413	188,949,408	284,543,396	288,621,745	289,566,675	230,604,474	18
40,308	53,592	66,891	31,900	40,434	54,143	66,995	32,166	19
2,725,573	3,792,142	4,534,454	1,576,892	2,728,315	3,840,780	4,543,649	1,994,536	20
40,789	54,602	75,183	32,247	42,370	56,311	76,531	34,061	21
2,734,911	3,809,298	4,687,073	1,683,646	2,782,223	3,884,106	4,727,137	2,039,983	22
56,241	85,068	86,326	30,619	76,147	101,942	122,832	36,031	23
547,342	911,465	948,756	246,985	783,403	1,120,025	1,424,071	311,689	24
83,826	43,315	240,141	62,297	131,786	90,839	275,767	83,266	25
2,040	2,377	1,638	779	15,537	24,743	17,522	5,903	26
101,448	114,345	76,640	34,560	608,124	847,248	663,568	234,551	27
1,762	3,822	2,447	9,225	30,985	3,876	19,620	22,815	28
49,103	135,561	63,489	201,556	1,047,744	137,653	658,724	613,729	29
47	46	45	30	2,286	463	2,490	2,346	30
2,686	4,606	400	1,070	225,607	57,165	347,158	291,784	31
158,653	257,913	143,902	238,662	1,893,707	1,057,119	1,681,814	1,148,608	32
666,741	745,223	419,839	625,925	1,754,597	2,222,432	2,202,769	1,652,280	33
3,352	2,344	7,292	6,957	875,390	951,750	909,540	531,367	34
56,575	31,691	11,659	15,732	207,689	235,608	397,022	160,125	35
40,672	11,620	9,416	8,150	77,197	51,991	37,339	30,792	36
33	367	866	472	14,002	11,510	12,098	3,787	37
4,631	60,454	154,745	96,177	2,363,798	1,982,689	2,230,336	682,303	38
266	668	616	351	2,142	3,460	3,976	1,748	39
8,074	19,740	18,475	10,336	79,533	128,854	139,366	61,064	40
220	1,008	1,328	662	18,664	10,580	13,448	6,318	41
12,123	53,057	69,895	34,423	1,074,426	625,168	823,499	380,842	42
-	1,029	571	22	-	2,472	2,535	367	43
6,839	5,540	1,004	558	14,232	2,471,678	2,702,355	471,144	44
610,630	475,418	63,483	21,163	901,147	14,325	17,144	8,971	45
116	1,255	1,893	885	6,164	799,887	600,819	450,521	46
17,399	176,321	242,354	117,578	1,024,222	1,176,517	998,412	207,291	47
171,969	298,505	212,014	49,245	355,150	522,497	476,584	142,230	48
227,402	503,057	888,546	796,942	2,151,278	3,272,043	4,798,183	1,564,462	49
1,082,655	126,884	316,440	193,605	3,549,380	326,114	577,953	401,873	50
5,207	2,177	900	4	308,025	295,128	194,949	135,894	51
1,265,929	1,143,349	828,877	291,490	3,051,059	3,064,433	3,117,364	1,755,694	52
3,522,603	4,367,408	4,118,842	2,030,436	15,643,381	15,870,918	18,366,688	7,188,078	53

12.—Principal Exports of Canadian Produce from Canada to United

		United Kingdom.			
No.	Item.	1928.	1929.	1930.	1931.
V. Iron and Its Products—concluded.					
	Hardware and Cutlery—				
1	Razors and razor blades..... \$	53,825	3,100	66,375	52,723
2	Nails, wire..... cwt.	788	998	120	82
		2,916	3,398	325	877
3	Nails, other..... cwt.	493	394	509	180
		5,386	4,446	6,667	2,762
4	Needles and pins..... \$	324,337	531,084	400,716	316,600
	Machinery—				
5	Electric vacuum cleaners..... No.	25,253	26,653	34,091	42,243
		1,038,732	1,127,075	1,426,884	1,706,818
6	Sewing machines..... \$	400	85	135	120
7	Adding machines..... No.	1,601	1,288	2,089	592
		123,399	102,909	174,602	51,272
8	Typewriters..... No.	3	3	6	416
		500	265	325	38,786
9	Metal-working machines..... \$	4,535	3,464	16,944	4,000
	Totals, Machinery ¹ \$	1,350,235	1,378,908	1,887,570	2,071,926
10	Tools, hand or machine..... \$	46,205	29,469	32,623	20,518
	Vehicles—				
11	Automobiles, freight—				
	One ton or less..... No.	288	—	—	—
		72,875	—	—	—
12	Over one ton..... No.	5	2	—	1
		5,700	2,280	—	421
	Automobiles, passenger—				
13	\$500 or less..... No.	1,162	2,485	2,412	259
		326,009	642,060	734,445	106,354
14	\$500 to \$1,000..... No.	3,326	4,794	1,741	651
		2,418,514	3,317,145	1,220,686	408,052
15	Over \$1,000..... No.	1,501	1,278	840	6
		1,894,553	1,504,237	1,045,899	12,320
	Totals, Automobiles..... No.	6,282	8,559	4,993	917
		4,717,651	5,465,722	3,001,030	527,147
16	Automobile parts..... \$	84,196	120,551	58,330	76,028
17	Railway cars and parts..... \$	500	—	365	—
18	Tractors and parts..... \$	—	—	—	—
	Totals, Vehicles ¹ \$	4,803,739	5,587,624	3,061,383	603,881
19	Chains..... \$	27,297	40,096	27,657	28,092
20	Stoves..... \$	14,103	25,981	4,303	15,001
	Totals, Iron and Its Products ¹ \$	8,195,972	8,721,020	6,848,000	4,073,233
VI. Non-Ferrous Metals.					
	Aluminium—				
21	Scrap..... cwt.	311	460	3,465	4,237
		3,187	7,246	56,519	58,219
22	Bars, blocks, etc..... cwt.	39,559	74,698	122,289	63,909
		845,510	1,420,944	2,340,294	1,319,300
23	Manufactures..... \$	37,568	47,275	180,196	175,248
	Brass—				
24	Old and scrap..... cwt.	3,490	3,575	2,870	2,402
		33,250	38,531	30,105	24,666
25	Valves..... \$	132,863	165,673	185,106	132,443
	Copper—				
26	Fine, in ore, matte, regulus..... cwt.	235,679	214,321	71,041	20,504
		1,770,865	1,603,291	667,973	205,049
27	Blister..... cwt.	—	—	—	—
		—	—	—	—
28	Old and scrap..... cwt.	768	1,716	348	3,135
		9,714	18,478	4,175	28,165
29	Bars..... cwt.	850	32	67	2,244
		25,900	1,380	2,687	26,339
30	Wire, insulated..... \$	7,286	17	150	—
	Totals, Copper ¹ \$	1,819,912	1,623,376	675,117	259,587

¹Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
31	—	—	4,860	1,774,322	633,568	537,362	525,371	1
2,354	2,782	2,559	701	69,127	69,284	54,787	31,552	2
8,121	9,552	8,714	2,583	245,492	245,441	188,406	115,623	3
2	92	433	567	17,639	18,243	27,738	19,225	4
14	588	4,673	5,421	135,025	124,672	162,629	110,776	5
3,753	471	778	897	395,472	612,077	502,164	382,776	6
15	5	23	9	35,185	39,556	50,374	52,557	7
906	155	685	7,279	1,415,806	1,697,642	2,067,328	2,099,333	8
4,431	4,144	3,587	3,595	3,464,098	4,333,533	3,211,969	1,851,210	9
18	8	134	3	2,307	4,056	4,003	1,423	10
925	3,217	13,990	440	236,323	408,289	402,179	143,405	11
393	31	32	87	930	1,089	1,234	1,433	12
15,779	1,856	1,938	3,226	39,833	54,948	68,614	91,260	13
6,385	10,877	14,843	350	262,538	90,924	47,566	19,485	14
304,731	272,304	377,729	350,532	6,166,574	7,337,075	7,154,706	5,542,753	15
16,686	29,090	51,982	10,317	296,790	207,358	284,800	161,091	16
2	3	12	18	15,079	22,165	21,447	3,961	17
800	585	1,206	3,085	5,569,890	7,871,430	8,465,601	1,305,592	18
2	4	7	3	12	9,293	8,235	9,563	19
5,457	5,682	5,429	1,935	22,068	3,923,304	3,611,278	3,907,656	20
206	131	249	317	17,683	54,561	36,220	17,999	21
40,447	30,612	54,688	73,168	7,009,647	19,219,420	13,856,685	6,818,126	22
34	84	39	44	9,566	15,723	13,023	5,859	23
25,482	25,072	27,121	31,266	6,849,243	9,894,681	8,201,565	3,669,333	24
9	7	17	5	4,398	1,824	936	145	25
14,790	10,400	25,281	12,000	5,389,827	2,150,898	1,172,516	178,533	26
253	179	324	387	46,738	103,566	79,861	37,527	27
86,976	72,351	113,719	121,454	24,840,675	43,059,733	35,307,645	15,879,240	28
69,095	143,620	66,399	54,471	2,566,960	2,383,193	2,298,742	1,250,043	29
7,980	3,205	8,975	4,052	269,444	208,480	31,897	204,604	30
136,633	9,433	14,154	15,227	141,059	20,361	17,595	19,123	31
313,594	230,881	208,557	197,400	27,919,341	45,773,770	37,755,351	17,418,283	32
248	12,316	3,776	206	149,256	164,144	168,758	112,809	33
39,906	38,582	72,256	33,491	114,482	129,573	152,692	108,162	34
8,831,287	11,157,421	11,635,491	6,118,120	62,753,934	82,256,717	78,589,580	38,937,661	35
3,674	11,936	5,260	7,859	4,950	25,173	32,521	32,476	36
44,216	97,677	52,417	62,804	60,791	316,372	486,790	395,876	37
396,257	218,924	291,454	101,114	532,315	438,099	771,919	322,919	38
7,918,826	4,323,108	4,887,230	1,639,342	10,822,174	8,608,247	13,828,010	5,791,984	39
21,742	3,982	17,459	2,696	612,836	719,575	2,107,390	1,180,896	40
56,057	118,008	108,516	45,175	73,862	131,866	112,397	49,568	41
428,435	1,072,671	1,040,551	299,341	595,464	1,200,737	1,082,938	335,095	42
3,904	4,725	1,677	453	223,588	272,300	288,663	196,191	43
513,776	641,585	749,481	593,447	749,455	855,906	820,846	629,971	44
5,312,860	6,332,888	8,096,900	5,256,490	7,083,725	7,936,179	8,769,586	5,629,512	45
574,448	1,037,012	1,430,995	1,144,962	577,790	1,218,517	1,575,438	1,144,962	46
7,377,863	16,754,159	25,988,654	15,618,000	7,427,986	18,968,309	28,965,827	15,618,000	47
70,859	66,473	119,655	40,811	80,183	73,573	122,693	54,313	48
758,277	734,466	1,648,737	339,852	846,713	825,672	1,692,472	463,548	49
2	32	—	150,958	2,148	1,476	1,738	155,645	50
55	812	—	1,617,767	54,341	37,892	48,181	1,703,703	51
3,085	565	1,461	1,421	139,475	253,163	136,709	58,401	52
13,433,073	23,829,452	35,739,195	22,834,707	15,592,682	28,046,684	39,628,652	23,483,044	53

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
VI. Non-Ferrous Metals—concluded.					
1	Lead— In ore..... cwt.	—	—	—	—
	\$	—	—	—	—
2	Pig..... cwt.	970,257	1,166,492	1,005,874	955,894
	\$	4,255,915	4,746,588	4,341,596	2,853,605
3	Nickel— In ore, etc..... cwt.	316,078	273,254	128,493	310,795
	\$	4,738,004	4,097,726	2,222,709	5,594,190
4	Nickel oxide..... cwt.	2,566	2,066	2,445	1,055
	\$	65,817	55,343	58,288	25,284
5	Fine..... cwt.	27,995	28,318	7,346	7,723
	\$	980,751	996,390	256,803	279,269
Precious Metals—					
6	Gold-bearing quartz, gold dust, etc..... \$	1,104	21,631	—	—
7	Platinum, in ore, etc..... oz.	—	1	4,428	19,840
	\$	—	66	352,315	1,612,720
8	Silver in ore, concentrates, etc..... oz.	—	—	—	—
	\$	—	—	—	—
9	Silver bullion..... oz.	24,903	478,214	168,588	—
	\$	14,194	272,583	92,000	—
Totals, Precious Metals ¹ \$		73,033	339,891	489,988	1,650,446
Zinc—					
10	In ore, etc..... cwt.	—	—	—	—
	\$	—	—	—	—
11	Spelter..... cwt.	214,422	271,432	591,667	1,167,993
	\$	1,176,600	1,410,394	2,732,922	3,434,377
12	Scrap, dross and ashes..... cwt.	12,285	3,304	5,128	4,671
	\$	40,942	13,528	18,378	11,471
Miscellaneous—					
13	Electric apparatus..... \$	292,402	298,649	274,496	229,958
14	Cobalt in ore..... cwt.	—	634	580	144
	\$	—	124,500	111,413	28,800
15	Cobalt, metallic..... lb.	138,799	18,000	10,000	—
	\$	300,412	41,000	25,000	—
Totals, Non-Ferrous Metals ¹ \$		15,696,472	16,347,438	15,404,363	17,153,570
VII. Non-Metallic Minerals.					
16	Asbestos..... ton	11,064	6,151	2,850	3,416
	\$	767,465	504,555	323,417	249,869
17	Asbestos sand..... ton	2,397	1,729	2,511	2,873
	\$	55,407	34,904	60,225	69,797
18	Asbestos mfrs..... \$	5,204	10,233	82,882	124,252
19	Porcelain insulators..... \$	4,068	43,783	138,406	275,154
20	Other clay and products..... \$	1,904	223	1,182	2,164
21	Coal (incl. lignite)..... ton	29,261	20,870	25,147	14,552
	\$	216,345	148,338	187,912	99,943
Coal Products—					
22	Coke..... ton	—	—	—	—
	\$	—	—	—	—
23	Tar..... gal.	1,236,876	—	200	—
	\$	128,667	—	144	—
24	Creosote oil..... gal.	—	—	—	—
	\$	—	—	—	—
25	Glass and glassware..... \$	33,316	96,702	47,996	117,914
26	Graphite..... cwt.	213	146	128	155
	\$	2,212	1,488	1,206	1,188
27	Mica splittings..... cwt.	150	90	60	18
	\$	11,025	3,005	3,510	1,230
28	Other mica..... \$	3,300	3,707	1,298	80
Petroleum and Its Products—					
29	Petroleum, crude..... gal.	5,056,011	7,242,258	8,526,834	7,204,979
	\$	304,420	493,404	505,224	341,921
30	Kerosene, refined..... gal.	—	—	—	—
	\$	—	—	—	—
31	Gasolene and naphtha..... gal.	—	—	1,292	—
	\$	—	—	233	—

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
49,796	145,583	200,751	212,667	135,551	146,622	201,127	219,624	1
299,316	872,914	1,190,932	1,086,089	871,543	879,148	1,192,732	1,100,376	2
8,722	81	7,795	-	2,416,093	2,533,822	2,178,016	1,985,308	3
47,412	296	39,619	-	11,009,119	10,251,187	9,445,155	5,944,144	4
51,254	132,588	164,290	76,387	367,332	405,842	293,657	423,835	5
765,741	1,988,208	2,576,761	1,377,768	5,503,745	6,085,934	4,819,695	7,725,696	6
11,605	16,537	16,211	8,654	79,371	95,829	99,452	34,038	7
251,202	318,782	311,408	167,466	2,472,589	2,919,043	3,035,249	691,254	8
254,652	470,471	610,010	322,414	335,582	573,151	672,066	361,420	9
6,115,407	11,181,954	14,943,549	8,126,991	9,049,970	14,875,515	17,180,031	9,529,425	10
8,990,186	12,371,060	34,375,003	17,824,142	9,035,734	12,896,444	34,375,003	17,832,608	11
1,296	764	29	-	1,296	765	4,503	21,332	12
83,462	52,092	1,833	-	83,462	52,158	357,748	1,730,661	13
5,366,070	6,378,786	7,244,184	7,953,061	5,463,309	6,517,822	7,390,017	7,994,815	14
2,851,367	3,596,903	3,805,786	3,085,514	2,905,130	3,671,422	3,878,703	3,098,337	15
2,891,265	3,123,069	1,863,156	4,933,792	15,906,738	14,250,979	15,186,751	16,701,012	16
1,647,357	1,818,005	933,073	1,617,700	8,956,407	8,291,506	7,691,152	5,828,879	17
13,912,332	18,234,110	39,513,806	22,831,444	21,378,805	24,853,191	46,746,390	28,832,299	18
-	105	-	-	-	225,212	299,922	427,003	19
80	659	-	-	862,295	1,439,278	1,628,885	801,096	20
760	-	-	-	1,237,522	1,275,076	1,355,517	1,745,176	21
40,379	63,960	67,788	29,736	7,085,422	6,652,637	6,488,679	5,122,994	22
109,672	197,043	229,041	48,263	59,593	70,895	75,152	39,063	23
98,342	94,816	107,229	96,567	170,982	214,932	249,148	64,130	24
-	1	255	171	1,848,968	2,400,838	2,521,045	2,009,389	25
-	103	18,449	10,886	-	4,364	3,601	4,224	26
133,669	243,548	257,800	27,000	305,226	541,023	450,114	397,158	27
262,293	451,968	491,889	45,406	338,526	261,548	267,800	27,000	28
44,114,499	63,221,555	101,728,976	58,835,683	704,403	492,968	516,889	45,406	29
74,176	85,477	85,247	67,389	129,402	134,062	136,333	100,223	30
4,606,536	5,401,953	5,588,201	3,531,810	8,549,366	9,090,392	9,560,889	5,921,357	31
125,600	126,196	141,733	110,357	134,725	134,807	150,164	119,318	32
1,928,149	1,977,836	2,309,631	1,594,577	2,127,805	2,176,796	2,513,176	1,798,617	33
17,241	26,015	16,317	12,549	48,162	76,043	137,833	178,252	34
7,060	161	692	711	180,649	147,279	249,457	463,211	35
99,174	135,175	84,478	78,591	136,753	148,589	103,164	95,597	36
469,135	463,281	370,012	185,665	914,644	879,170	755,846	562,434	37
2,114,927	2,077,199	1,720,688	882,258	4,745,856	4,523,985	3,998,692	2,976,426	38
66,164	42,419	51,715	56,182	67,323	42,559	52,110	56,396	39
722,274	638,847	687,071	737,743	730,823	640,078	690,495	739,225	40
746,787	375,009	335,532	292,549	3,797,990	3,256,681	4,582,309	2,751,616	41
52,991	28,110	26,359	22,393	352,247	246,081	177,885	122,087	42
3,056,443	1,128,052	1,016,432	1,069,359	3,056,660	1,128,152	1,016,432	1,069,469	43
527,287	183,850	158,837	163,818	527,388	183,926	158,837	163,868	44
14,501	11,473	20,712	9,311	107,686	157,227	104,440	163,686	45
36,303	18,932	43,959	30,142	36,525	19,100	44,087	30,298	46
98,976	43,995	121,496	75,333	101,288	45,686	122,702	76,561	47
2,117	1,658	1,375	1,004	2,267	1,748	1,435	1,022	48
140,259	80,636	72,540	40,721	151,284	83,641	76,050	41,951	49
103,015	89,415	112,642	43,910	107,335	93,556	115,521	44,760	50
10,947,648	16,274,142	14,767,901	12,445,991	16,291,088	24,065,888	25,078,076	21,790,367	51
482,006	765,683	651,149	487,622	813,413	1,308,623	1,281,294	962,768	52
530,099	3,281	35,453	6,801	2,118,861	1,501,863	1,238,431	961,262	53
56,819	557	5,178	995	213,873	147,455	124,309	93,824	54
232,858	1,098,976	2,343,013	2,535,309	3,118,503	4,035,744	5,071,177	6,429,080	55
50,156	224,416	468,439	405,109	624,348	724,385	950,130	1,063,811	56

12.—Principal Exports of Canadian Produce from Canada to United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
VII. Non-Metallic Minerals—concluded.					
1	Stone and Its Products—				
	Abrasives, artificial.....cwt.	50,563	64,866	82,988	23,320
\$	183,204	239,495	289,380	93,819
2	Cement, Portland.....cwt.	—	—	—	23
3	Gypsum, crude.....ton	—	—	—	—
\$	—	—	—	—
4	Lime.....cwt.	—	—	—	—
\$	—	—	—	—
5	Feldspar.....ton	10	6	20	—
\$	300	180	940	—
6	Sand and gravel.....ton	—	—	—	—
\$	—	—	—	—
7	Talc.....cwt.	15,121	14,915	18,608	11,741
\$	8,780	8,861	15,260	9,148
	Totals, Non-Metallic Minerals ¹\$	1,933,969	1,771,253	1,952,156	1,546,819
VIII. Chemicals and Allied Products.					
8	Acid, sulphuric.....cwt.	—	—	—	—
\$	—	—	—	—
9	Acids, other.....cwt.	187,847	181,636	315,380	102,115
\$	2,234,853	2,155,707	2,841,150	890,328
10	Drugs, medicinal.....\$	157,489	295,935	335,224	243,238
11	Explosives.....\$	—	—	—	—
	Fertilizers—				
12	Ammonium sulphate.....cwt.	—	—	—	—
\$	—	—	—	—
13	Cyanamid.....cwt.	—	—	—	—
\$	—	—	—	—
14	Paints, pigments and varnishes.....\$	144,292	196,044	124,604	125,050
15	Soap, toilet.....lb.	6,437,259	3,864,470	4,729,321	3,562,969
\$	878,387	523,422	624,438	424,720
	Inorganic Chemicals, n.o.p.—				
16	Arsenic, n.o.p.....cwt.	—	—	—	—
\$	—	—	—	—
17	Acetate of lime.....cwt.	2,462	2,283	—	—
\$	6,607	7,198	—	—
18	Soda and sodium compounds.....cwt.	—	—	—	—
\$	—	—	—	—
19	Cobalt oxide and salts.....lb.	202,080	111,022	86,000	154,500
\$	289,923	160,835	170,950	290,025
	Totals, Inorganic Chemicals, n.o.p. ¹ \$	301,196	173,421	176,589	292,128
	Totals, Chemicals and Allied Products ¹ \$	4,234,278	4,036,885	4,888,740	2,714,386
IX. Miscellaneous Commodities.					
20	Amusement and sporting goods.....\$	16,924	39,699	43,792	37,176
21	Brushes.....\$	111,681	59,291	45,168	11,739
22	Containers.....\$	5,269	4,098	6,777	12,818
23	Household and personal equipment.....\$	199,710	209,682	286,852	558,865
	Musical Instruments—				
24	Organs.....No.	89	31	18	36
\$	9,053	3,297	2,352	3,812
25	Pianos.....No.	32	16	10	5
\$	10,954	5,370	3,330	2,050
26	Other.....\$	29,116	25,742	8,164	7,576
	Scientific and Educational Equipment—				
27	Cameras.....\$	400,703	6,057	265	15
28	Films.....\$	1,341,457	2,049,518	2,006,728	2,006,254
29	Ships and vessels.....\$	1,737	2,593	2,214	2,643
30	Contractors' outfits.....\$	—	—	5,102	—
31	Electrical energy.....M k.w.h.	—	—	—	—
\$	—	—	—	—
32	Ice.....\$	—	—	—	—
33	Settlers' effects.....\$	370,809	427,508	474,126	363,654
	Totals, Miscellaneous Commodities ¹ ... \$	2,668,575	2,941,722	3,030,584	3,077,474
	Totals, Exports, Canadian Produce ¹ ... \$	410,691,392	429,730,485	281,745,965	219,246,499

¹Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—concluded.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
965,275	1,237,428	1,449,204	1,022,291	1,046,540	1,327,797	1,542,895	1,047,807	1
2,505,348	3,088,318	3,454,453	2,475,674	2,820,811	3,446,155	3,775,924	2,577,730	2
82,860	115,283	4,460	11,292	900,202	934,949	837,269	662,852	3
47,288	78,674	3,643	6,808	310,730	339,267	256,552	704,939	4
729,093	868,044	855,931	704,939	729,093	868,044	855,931	848,778	5
1,183,561	1,240,439	1,048,130	848,778	1,183,561	1,240,439	1,048,130	420,207	6
401,283	427,074	433,308	397,252	411,055	443,100	456,810	416,059	7
350,756	380,176	401,631	399,796	358,394	391,797	419,522	88,365	8
31,134	28,547	28,382	11,173	31,174	28,613	28,481	11,223	9
250,854	227,990	228,631	86,965	251,964	229,970	231,941	2,580,624	10
639,962	792,106	1,909,335	2,583,594	639,962	752,141	1,909,395	463,816	11
176,404	230,172	442,936	463,756	176,404	230,443	443,537	154,940	12
192,809	202,374	201,571	141,399	214,377	225,457	223,591	90,079	13
114,073	124,400	118,528	76,938	126,459	138,390	135,456		14
16,178,552	17,994,515	18,662,256	13,255,258	25,949,930	27,401,790	28,545,096	21,107,780	
323,571	245,307	152,259	11,802	323,599	245,339	152,319	11,828	15
179,629	138,927	81,495	6,449	179,732	139,128	81,580	6,553	16
115,543	269,917	296,062	170,791	308,742	457,196	616,002	276,273	17
850,200	1,882,549	2,133,182	955,098	3,150,212	4,101,544	5,014,949	1,874,603	18
12,934	12,063	17,683	16,772	149,878	660,667	779,625	560,485	19
585	500	405	3,496	175,096	216,557	235,187	238,709	20
51,419	83,492	135,222	88,062	307,486	318,040	448,335	182,863	21
105,877	151,094	209,539	134,311	657,884	637,149	783,890	298,811	22
2,376,463	3,041,524	4,092,512	1,956,754	2,412,592	3,065,812	4,337,370	1,987,607	23
4,644,427	5,318,671	6,644,541	3,039,292	4,726,118	5,367,298	7,080,718	3,094,734	24
60,047	74,714	51,922	43,204	420,197	529,293	503,453	400,191	25
158	715	1,187	—	6,836,546	4,046,785	5,038,593	5,258,217	26
31	159	238	—	947,980	562,836	694,256	612,692	27
34,611	34,965	26,908	22,723	34,611	34,965	26,908	22,723	28
113,612	134,073	106,070	83,750	113,612	134,073	106,070	83,750	29
72,099	113,569	82,179	27,752	74,561	115,852	82,179	27,752	30
238,686	438,647	354,602	118,239	245,293	445,845	354,602	118,239	31
301,737	433,971	614,873	435,163	703,690	747,333	922,132	680,593	32
1,362,967	2,022,607	2,327,562	1,309,251	3,666,242	3,919,560	4,208,518	2,870,365	33
147,650	156,350	105,000	102,905	395,089	342,797	244,800	287,105	34
290,985	300,993	199,500	187,890	673,303	617,535	479,780	536,135	35
2,094,627	3,031,182	3,116,177	1,768,773	5,662,184	6,037,777	5,508,405	4,302,406	36
8,150,913	10,779,475	12,535,510	6,361,691	17,365,516	19,438,064	22,468,462	12,825,852	
31,066	55,636	46,208	41,485	77,134	128,203	131,503	122,569	37
261	563	1,117	101	178,256	120,060	111,920	67,463	38
324,808	199,524	218,969	163,991	715,120	572,701	616,213	505,800	39
79,055	100,224	99,831	118,339	629,331	676,313	820,831	1,001,055	40
25	17	17	13	392	270	232	177	41
181,250	217,131	174,821	115,216	231,578	242,276	197,969	154,684	42
71	72	57	39	825	860	837	122	43
23,985	26,169	17,725	9,892	211,656	228,426	218,800	28,616	44
15,509	10,995	12,215	10,063	828,909	297,188	229,512	118,957	45
3,699	5,905	3,424	1,944	639,520	128,040	8,266	4,103	46
1,397,042	1,330,140	1,928,730	1,348,721	3,542,406	4,265,322	4,790,619	4,250,536	47
181,432	108,781	83,957	155,859	609,767	209,187	901,269	562,719	48
590,681	388,154	364,658	416,842	600,330	1,421,969	379,046	442,319	49
—	1,442,932	1,499,087	1,697,763	—	1,442,993	1,459,123	1,697,814	50
—	3,935,899	4,025,233	4,449,711	—	3,938,182	4,028,154	4,453,280	51
137,108	161,720	124,854	112,635	137,356	162,139	124,854	112,733	52
5,148,498	5,197,067	5,540,202	4,960,021	5,767,805	5,917,625	6,304,199	5,604,055	53
8,618,633	12,342,976	13,336,314	12,359,090	15,036,359	18,263,813	20,057,938	18,115,846	
478,145,383	499,612,145	515,049,763	349,660,563	1,228,349,343	1,363,709,672	1,120,258,302	799,712,667	

13.—Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
I. Agricultural and Vegetable Products.					
A. MAINLY FOOD.					
Fruits—					
Fresh—					
1	Apples..... brl.	—	100	—	—
	\$	—	914	—	—
2	Bananas..... bunch	—	—	—	—
	\$	—	—	—	—
3	Cranberries..... brl.	—	—	—	—
	\$	—	—	—	—
4	Grape fruit..... lb.	—	—	700	—
	\$	—	—	39	—
5	Grapes..... lb.	421,320	246,317	240,605	138,040
	\$	54,811	28,782	26,106	11,762
6	Lemons..... box	2,723	4,317	10,544	2,872
	\$	12,078	13,326	48,533	11,042
7	Melons..... No.	114	325	—	—
	\$	68	63	—	—
8	Oranges..... box	10,805	8,015	58,603	83,437
	\$	34,997	38,191	211,038	373,700
9	Peaches..... lb.	—	—	—	4,500
	\$	—	—	—	356
10	Pears..... lb.	3,420	7,000	—	11,880
	\$	978	682	—	1,182
11	Pineapples.....	—	—	—	—
12	Plums..... bush.	—	—	—	—
	\$	—	—	—	—
13	Strawberries..... lb.	—	—	—	—
	\$	—	—	—	—
	Totals, Fresh Fruits ¹ \$	103,076	83,910	289,123	398,765
Dried—					
14	Currants..... lb.	2,743	1,160	1,684	21,606
	\$	346	192	226	2,290
15	Dates..... lb.	8,742,708	5,486,205	7,432,110	8,460,711
	\$	351,395	236,591	300,145	314,067
16	Figs..... lb.	213,819	876,049	322,360	70,155
	\$	10,696	53,765	19,778	3,425
17	Peaches..... lb.	—	—	8,750	38,540
	\$	—	—	864	3,974
18	Prunes and plums..... lb.	—	—	—	1,953
	\$	—	—	—	123
19	Raisins..... lb.	381,336	310,863	236,671	46,045
	\$	35,800	25,396	16,787	3,277
	Totals, Dried Fruits ¹ \$	407,936	330,263	365,117	359,821
20	Canned..... lb.	124,734	66,898	138,156	598,535
	\$	9,947	5,190	8,369	26,025
21	Jellies and jams..... lb.	1,438,509	1,061,771	1,256,632	965,973
	\$	183,202	141,892	161,094	106,303
22	Fruit juices and syrups..... gal.	23,825	8,364	19,457	10,175
	\$	35,344	24,013	31,519	21,993
	Totals, All Fruits ¹ \$	756,781	616,284	877,825	939,980
Nuts—					
23	Coco-nuts..... No.	—	—	—	—
	\$	—	—	—	—
24	Coco-nut, desiccated.....	7,281	4,146	1,317	144
25	Almonds, not shelled..... lb.	—	—	440	4,318
	\$	—	—	50	692
26	Brazil nuts, not shelled..... lb.	82,162	279,170	332,581	240,990
	\$	13,067	41,950	34,243	30,929
27	Peanuts, green, shelled or not..... lb.	4,410	—	—	38,394
	\$	383	—	—	1,697
28	Walnuts, not shelled..... lb.	—	1,630	934	4,214
	\$	—	242	154	514
29	Almonds, shelled..... lb.	110,331	115,521	114,073	112,139
	\$	51,789	56,755	52,200	41,715
30	Walnuts, shelled..... lb.	23,182	12,555	18,364	12,263
	\$	6,754	4,135	6,471	3,434
	Totals, Nuts ¹ \$	126,806	190,249	218,006	153,683

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
199,011	190,622	154,549	135,024	199,223	194,620	158,420	139,474	1
1,123,915	917,148	861,231	589,897	1,124,839	943,986	903,088	627,137	2
3,318,447	3,531,015	1,188,551	768,270	3,380,790	3,589,693	3,923,944	3,889,713	3
5,497,999	5,204,262	2,055,691	1,256,787	5,571,521	5,246,109	3,554,402	2,475,270	4
19,898	21,689	22,616	21,667	19,899	21,689	22,616	21,667	5
221,253	241,371	243,978	192,183	221,260	241,371	243,982	192,183	6
19,057,320	19,945,982	24,015,866	26,243,901	19,575,228	20,528,581	25,898,332	28,348,217	7
921,142	883,007	1,133,036	1,085,416	941,523	911,099	1,224,229	1,186,437	8
22,350,587	33,980,103	26,188,453	32,366,331	23,073,565	34,398,174	26,572,605	32,701,064	9
1,097,236	1,573,547	1,350,786	1,064,127	1,189,124	1,620,793	1,394,126	1,095,499	10
246,347	283,517	234,591	259,030	359,088	406,600	344,759	389,302	11
1,079,300	1,330,500	1,193,351	1,073,112	1,470,633	1,835,833	1,644,398	1,533,406	12
4,512,522	5,735,066	6,529,351	7,374,310	4,512,636	5,740,367	6,529,381	7,645,862	13
498,663	572,382	731,527	577,147	498,731	573,287	731,539	577,458	14
2,362,141	2,256,797	2,708,465	2,080,218	2,498,644	2,389,369	2,911,551	2,406,433	15
9,554,567	9,893,629	8,680,870	8,281,741	9,940,781	10,326,874	9,368,082	9,492,922	16
15,725,162	20,734,458	20,003,960	11,836,325	15,725,162	20,734,458	20,003,960	11,884,287	17
663,062	625,848	768,583	683,203	663,062	625,848	768,583	683,203	18
18,424,307	27,399,706	19,188,122	23,333,224	18,434,357	27,416,131	19,199,747	23,422,654	19
927,344	1,019,863	1,039,551	1,035,349	928,565	1,020,907	1,040,148	1,039,198	20
619,042	462,056	495,290	581,091	524,489	464,774	585,799	644,062	21
205,239	268,755	251,392	309,889	205,239	268,755	251,392	301,198	22
544,055	572,402	582,109	557,007	544,055	572,402	582,109	557,126	23
6,222,419	8,787,468	8,552,251	3,712,179	6,222,419	8,787,468	8,552,251	3,712,179	24
832,018	1,029,277	1,024,854	589,791	832,018	1,029,277	1,024,854	589,791	25
23,795,082	24,708,047	20,726,166	17,872,315	24,859,503	25,915,836	23,778,878	21,021,129	26
38,536	17,396	168,263	28,352	6,190,608	6,122,795	4,493,344	4,653,223	27
4,425	2,234	12,766	1,579	626,833	773,965	499,495	449,254	28
4,503,840	3,634,028	3,615,660	2,138,332	13,885,325	10,970,646	12,043,586	11,902,113	29
418,600	341,220	316,462	130,875	815,829	664,532	663,974	503,135	30
1,586,192	1,227,507	1,094,671	930,470	4,775,414	4,989,470	4,586,269	2,905,568	31
128,679	116,861	105,357	63,501	327,653	382,606	360,310	191,703	32
1,717,252	2,384,785	1,412,494	1,187,325	1,717,532	2,384,785	1,488,416	1,263,535	33
157,246	222,943	165,922	101,577	157,299	222,943	175,452	108,124	34
20,092,720	18,957,063	15,267,619	16,656,477	20,107,420	18,962,384	15,270,972	16,670,146	35
1,137,749	1,201,600	1,328,724	906,786	1,140,147	1,203,085	1,329,732	908,385	36
39,321,010	39,775,494	30,893,026	25,145,998	44,710,803	43,656,095	38,322,700	36,719,393	37
2,363,984	1,903,387	1,572,340	1,196,788	2,965,970	2,371,556	2,433,145	2,357,648	38
4,455,691	4,126,960	3,764,748	2,591,559	6,311,756	5,999,345	5,808,878	4,780,108	39
17,940,832	23,459,351	23,990,071	13,694,658	29,591,401	39,908,271	43,082,076	38,832,973	40
1,585,682	2,032,741	2,393,448	1,245,974	2,373,780	2,978,012	3,425,966	2,526,662	41
117,797	244,117	203,377	150,329	2,288,592	1,877,195	2,365,507	1,218,337	42
22,393	52,908	37,326	25,901	334,862	330,019	392,195	155,429	43
45,159	83,857	678,955	252,037	114,131	130,940	758,247	323,596	44
142,003	159,883	393,276	353,764	200,076	210,156	463,095	407,976	45
30,087,263	31,165,554	27,392,739	22,166,887	34,379,286	35,876,473	34,277,882	29,498,549	46
154,058	110,980	61,587	55,972	8,375,017	9,050,925	7,372,409	7,206,588	47
6,001	5,743	3,498	2,313	188,251	201,747	150,517	115,745	48
1,419	495	872	337	193,226	162,955	200,805	138,816	49
53,871	39,228	55,010	22,226	811,575	1,106,981	863,032	931,556	50
9,216	9,379	8,691	4,244	107,615	148,199	123,099	97,900	51
805,967	755,905	926,075	455,143	1,050,456	1,238,335	1,562,262	1,055,977	52
136,769	121,452	102,566	60,901	170,738	189,986	153,504	133,727	53
1,372,672	1,645,706	1,817,363	2,539,163	7,008,618	8,152,410	7,170,068	25,323,421	54
118,458	166,845	155,559	181,610	339,734	481,834	354,051	971,216	55
447,495	473,948	741,024	628,684	2,025,443	1,703,593	1,753,936	1,388,093	56
90,844	109,609	129,206	109,652	224,521	250,194	239,555	184,355	57
43,841	65,085	23,694	7,813	2,208,890	2,029,952	2,213,777	1,732,343	58
27,939	37,009	13,255	4,361	791,361	733,946	756,242	441,131	59
418,293	137,147	231,557	184,444	4,441,762	4,674,891	4,659,281	4,806,662	60
160,952	32,350	73,755	70,954	1,297,026	1,130,677	1,138,485	1,003,151	61
1,557,318	1,603,718	1,512,154	923,111	5,058,030	5,175,287	5,095,109	3,998,144	62

13.—Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
I. Agricultural and Vegetable Products—con.					
A. MAINLY FOOD—continued.					
Vegetables—					
1	Cabbage.....	\$	—	16	—
2	Celery.....	\$	—	37	—
3	Lettuce.....	\$	—	—	—
4	Onions.....	\$	67,262	77,009	71,690
5	Potatoes (except sweet).....	cwt.	13	—	—
		\$	14	—	13
6	Tomatoes, fresh.....	\$	26	94	560
7	Canned.....	lb.	21,659	898	13,617
		\$	4,246	165	1,660
8	Sauces and pickles.....	gal.	197,931	167,184	142,084
		\$	354,233	268,929	256,496
	Totals, Vegetables ¹	\$	430,179	350,369	332,791
					267,069
Grains and Farinaceous Products—					
Grains—					
9	Beans.....	bush.	22,090	18,367	13,746
		\$	43,033	60,326	55,071
10	Corn.....	bush.	—	—	54
		\$	—	—	161
11	Oats.....	bush.	664	1,276	1,963
		\$	1,081	1,731	2,186
12	Rice.....	cwt.	2,532	14,036	1,424
		\$	10,167	44,153	5,772
Milled Products—					
13	Corn meal.....	brl.	—	—	—
		\$	—	—	—
14	Wheat flour.....	brl.	197	136	496
		\$	2,109	1,234	6,471
Prepared Foods and Bakery Products—					
15	Biscuits.....	lb.	1,307,412	1,558,495	1,624,113
		\$	168,714	211,636	228,518
16	Cereal foods, prepared.....	\$	21,951	22,954	16,122
17	Macaroni and vermicelli.....	lb.	1,275	522	794
		\$	165	71	83
18	Malt.....	lb.	110,068	49,656	22,512
		\$	6,111	3,152	1,223
19	Sago and tapioca.....	lb.	207,031	5,769	29,581
		\$	6,650	352	1,633
	Totals, Grains and Farinaceous Products ¹	\$	465,924	557,239	608,301
					521,693
Oils, Vegetable, for Food—					
20	Coco-nut oil, n.o.p.....	gal.	28,761	56,290	56,163
		\$	35,568	61,503	61,972
21	Cotton-seed oil for canning fish.....	gal.	58,825	126,955	134,130
		\$	55,256	110,505	119,577
22	Olive oil, n.o.p.....	gal.	1,489	1,354	1,282
		\$	4,137	2,973	2,534
23	Peanut and soya-bean oil, n.o.p.....	gal.	5,813	71,164	77,457
		\$	5,532	58,714	60,977
	Totals, Oils, Vegetable, for Food ¹	\$	101,650	246,755	269,305
					205,721
Sugar and Its Products—					
24	Molasses, 56 degrees or less, imported under Preferential tariff.....	gal.	—	—	—
		\$	—	—	—
25	Sugar, not above No. 16, D.S.....	cwt.	47	—	4
		\$	200	—	10
26	Sugar, above No. 16, D.S.....	cwt.	2,300	52	33
		\$	10,879	580	375
27	Candy (incl. chocolate).....	lb.	3,219,645	3,299,540	3,515,176
		\$	684,296	633,525	633,820
	Totals, Sugar, etc. ¹	\$	832,817	749,056	727,555
					584,162
Tea, Coffee, Cocoa and Spices—					
Cocoa—					
28	Cocoa beans, not roasted or ground.....	cwt.	40,218	15,736	19,963
		\$	603,106	190,736	204,747
29	Cocoa butter.....	lb.	262,252	282,135	337,348
		\$	100,909	97,787	103,281
30	Other.....	\$	16,180	88,156	12,732
					23,135

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
304,155	367,420	382,232	448,734	305,569	368,812	383,491	450,101	1
486,223	582,888	634,640	645,728	486,305	584,604	641,858	662,934	2
—	883,275	1,103,405	928,907	—	883,281	1,003,405	928,907	3
221,433	275,472	310,445	207,261	548,521	760,375	649,301	435,317	4
300,647	472,971	769,401	406,480	300,886	473,351	769,777	407,525	5
798,316	539,803	1,345,479	690,755	799,039	540,807	1,346,332	693,600	6
1,349,199	1,457,989	1,650,338	1,399,813	1,550,102	1,900,054	1,955,100	1,899,838	7
10,204,180	14,210,283	16,926,833	9,800,064	16,443,572	20,356,335	24,085,829	15,290,617	8
840,162	1,169,546	1,392,824	865,750	1,441,089	1,752,644	2,106,447	1,328,919	
153,334	152,179	175,720	253,552	497,528	474,163	454,566	582,774	
221,956	247,211	287,985	265,503	659,396	604,396	628,529	601,937	
6,496,376	7,337,994	9,196,444	7,748,456	8,175,549	9,299,328	11,020,339	8,934,781	
47,535	73,264	30,141	22,554	430,880	327,828	226,405	142,276	9
161,059	322,729	187,519	114,015	962,585	1,128,112	807,859	392,471	
7,484,774	9,583,974	9,153,016	3,119,139	14,991,064	14,128,888	14,839,040	10,055,152	10
6,771,583	9,346,215	8,785,681	2,632,509	13,057,832	13,792,143	14,149,266	7,417,271	
3,092,331	3,035,480	3,723,985	1,349,202	3,092,999	3,036,756	3,725,948	1,349,245	11
1,783,613	1,544,595	1,873,679	597,284	1,784,698	1,546,326	1,875,865	597,318	
164,049	198,313	194,496	256,928	675,842	592,879	578,807	617,725	12
561,517	584,239	648,409	675,634	2,357,982	1,891,053	1,895,785	1,660,395	
43,354	46,749	50,156	35,517	43,402	46,749	50,156	35,517	13
216,625	234,892	239,538	159,830	216,937	234,892	239,538	159,830	
69,488	75,246	87,538	35,636	69,733	75,432	88,077	36,832	14
527,496	539,037	593,328	249,102	530,160	540,853	600,338	256,285	
2,146,762	1,987,128	1,787,481	1,133,695	3,588,008	3,724,962	3,569,592	3,221,384	15
262,986	262,432	232,667	158,530	453,786	505,687	492,769	475,408	
253,818	282,269	308,212	235,274	273,633	306,873	330,078	255,330	16
1,848,511	2,817,834	2,694,150	2,243,447	2,095,189	3,074,380	3,366,436	2,696,020	17
176,166	246,670	218,809	168,191	195,500	265,170	262,773	198,246	
32,180,126	40,881,816	25,951,335	11,703,885	32,524,599	41,195,472	26,139,077	12,078,909	18
903,044	1,276,728	682,769	276,885	981,491	1,293,830	692,544	295,226	
232,662	158,556	454,497	537,698	3,379,833	3,975,002	2,931,104	3,268,929	19
23,646	26,541	41,827	58,557	133,080	157,149	122,284	138,828	
12,784,443	16,390,339	16,695,799	6,272,049	22,358,442	23,737,007	25,082,671	13,339,358	
8,209	25,263	14,984	20,089	36,970	81,795	71,147	71,268	20
12,428	32,208	18,292	20,964	47,996	93,976	80,264	71,925	
29,773	119	221	172	90,416	127,074	134,351	89,802	21
30,033	145	240	175	89,616	110,650	119,817	67,206	
12,796	19,125	21,614	13,713	283,493	354,702	359,358	506,512	22
25,589	35,297	38,003	23,371	552,420	615,805	574,381	546,896	
14,946	2,548	5,488	9,014	87,454	126,408	135,551	197,753	23
13,362	2,853	6,455	5,997	90,202	120,290	117,501	129,581	
108,669	107,868	88,052	81,040	808,648	991,460	941,895	848,802	
—	—	—	—	5,098,890	4,507,093	4,586,160	5,193,745	24
—	—	—	—	2,212,249	1,692,874	1,536,137	1,733,201	
127,401	181,532	448	—	8,947,779	8,191,708	8,057,423	8,301,800	25
384,491	399,142	1,243	—	31,475,335	25,309,147	20,310,269	19,482,796	
33,998	57,536	49,902	55,897	722,814	829,760	1,413,904	1,022,076	26
170,147	227,302	175,638	241,518	3,245,527	2,874,108	3,950,400	2,376,209	
1,153,869	1,075,638	1,331,441	1,043,596	4,891,600	4,903,326	5,554,293	4,737,916	27
221,886	205,386	237,968	174,619	1,030,678	962,965	1,027,731	794,042	
1,297,776	1,555,894	1,430,810	1,001,567	38,821,678	31,757,316	27,987,156	25,151,230	
30,520	31,664	26,152	21,543	177,783	158,013	189,097	163,631	28
490,754	420,521	312,008	234,021	2,687,097	1,942,164	1,971,066	1,401,582	
978,466	1,548,869	163,360	276,965	5,408,622	5,073,480	5,867,169	5,348,300	29
333,799	489,053	43,446	53,636	1,916,510	1,586,814	1,476,462	1,061,480	
132,040	110,466	121,284	92,704	185,287	273,524	203,957	178,449	30

13.—Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
I. Agricultural and Vegetable Products—con.					
A. MAINLY FOOD—concluded.					
Tea, Coffee, Cocoa and Spices—concluded.					
Coffee and Chicory—					
1	Coffee, green..... lb.	2,488,810	3,219,477	2,508,577	2,644,554
	\$	626,965	830,481	620,318	524,470
2	Other coffee and chicory..... \$	39,156	28,969	34,444	21,383
Spices—					
3	Ginger, unground..... lb.	256,397	84,469	80,488	86,390
	\$	22,813	9,350	9,952	7,584
4	Mustard, ground..... lb.	673,616	825,022	669,853	695,312
	\$	347,170	441,494	316,360	366,241
5	Pepper, unground..... lb.	571,278	591,658	556,854	294,966
	\$	168,509	199,310	175,987	51,820
6	Vanilla beans, crude..... lb.	2,500	500	10	1,706
	\$	5,263	395	14	1,662
	Totals, Spices ¹ \$	614,702	704,414	552,846	455,056
7	Tea..... lb.	14,664,322	16,245,586	15,424,517	21,483,822
	\$	5,270,929	5,282,578	4,819,006	5,890,642
8	Yeast..... lb.	464	1,588	4,019	19,620
	\$	78	416	688	2,735
9	Hops..... lb.	142,390	198,482	226,684	549,898
	\$	33,956	25,680	22,485	30,381
10	Liquorice paste..... lb.	1,440	224	3,732	960
	\$	217	60	441	136
11	Malt extract..... lb.	372,499	397,685	574,415	671,331
	\$	26,733	25,946	52,573	61,501
	Totals, Agricultural and Vegetable Products—A. MAINLY FOOD ¹ \$	10,125,184	10,039,236	9,500,516	9,901,680
B. OTHER THAN FOOD.					
Beverages, Alcoholic—					
12	Brewed (beer, etc.)..... gal.	161,228	199,704	209,860	191,567
	\$	322,617	405,522	436,923	393,935
13	Distilled spirits..... pf. gal.	1,849,255	1,934,302	1,792,887	1,412,258
	\$	38,243,427	39,733,695	36,823,582	28,915,742
Wines—					
14	Non-sparkling..... gal.	16,894	24,907	38,131	36,900
	\$	111,206	166,470	237,621	203,089
15	Sparkling..... \$	15,476	9,140	10,036	2,655
	Totals, Beverages, Alcoholic..... \$	38,692,726	40,314,836	37,508,162	29,515,421
Gums and Resins—					
16	Chicle gum, crude..... lb.	—	1,450	—	—
	\$	—	381	—	—
17	Lac, crude..... cwt.	6	5	49	71
	\$	306	234	2,677	1,570
18	Resin or rosin..... cwt.	28	52	387	390
	\$	310	1,404	5,732	3,722
	Totals, Gums and Resins ¹ \$	28,886	36,195	52,095	40,843
19	Oilcake and meal..... cwt.	—	—	—	5,089
	\$	—	15	—	9,655
Oils, Vegetable, not Food—					
20	Chinawood..... cwt.	—	—	4	5
	\$	—	—	126	115
21	Coco-nut, palm, etc., for mfr. of soap..... gal.	40,093	49,156	112,931	143,346
	\$	34,901	42,367	85,859	77,484
22	Cotton-seed, crude, for refining..... cwt.	392	47,686	138,616	45,960
	\$	3,548	346,200	961,700	208,771
23	Essential (except peppermint)..... lb.	118,363	82,051	94,330	99,320
	\$	112,854	141,170	188,095	145,731
24	Flaxseed or linseed..... lb.	428,160	412,589	1,159,900	461,880
	\$	31,407	30,314	101,621	37,961
25	Peanut, for refining for food..... cwt.	—	48,153	99,498	10,084
	\$	—	423,810	747,436	58,429
	Totals, Oils, Vegetable, not Food ¹ .. \$	286,750	1,209,234	2,359,787	680,857

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
67,191	42,658	97,690	312,517	27,126,506	25,126,041	28,660,517	31,501,596	1
16,426	10,758	17,337	42,561	5,667,068	5,856,317	5,924,635	4,365,637	
498,306	607,336	673,781	467,190	543,039	646,971	725,084	492,747	2
13,006	15,718	19,528	13,121	732,336	425,504	474,808	547,422	3
1,682	3,102	3,072	1,131	59,476	48,542	55,425	50,792	
244,753	331,485	231,639	193,583	918,371	1,156,507	903,292	888,895	4
27,957	36,151	27,820	21,241	375,128	477,645	344,392	387,482	
34,696	73,555	32,645	54,991	1,487,538	1,619,894	1,851,840	1,789,225	5
4,218	20,715	10,033	10,885	422,065	541,013	588,892	331,603	
46,481	49,250	60,665	48,910	53,326	56,742	79,621	62,905	6
115,173	97,365	105,776	80,222	125,817	107,966	132,699	97,720	
247,240	286,474	242,811	194,861	1,487,515	1,580,639	1,499,001	1,150,692	
107,038	53,277	84,294	44,898	38,658,494	39,425,956	38,102,295	53,464,341	7
30,695	25,387	38,267	16,412	12,310,414	11,752,521	10,694,379	13,048,877	
2,161,539	2,185,968	2,430,934	2,196,651	2,167,396	2,188,237	2,455,984	2,224,233	8
406,582	356,296	396,303	363,884	408,346	357,503	399,406	368,720	
1,466,038	1,625,829	1,442,831	1,019,731	2,068,895	2,399,294	2,802,861	2,746,277	9
481,160	445,441	307,246	201,166	709,344	682,493	580,162	408,710	
1,632,245	1,580,022	1,543,157	1,347,774	1,640,179	1,580,246	1,546,889	1,359,991	10
231,101	223,686	218,395	180,138	232,177	223,746	218,836	182,468	
3,649,898	3,466,700	3,857,135	3,159,127	4,022,855	3,865,045	4,431,746	3,832,309	11
282,364	278,533	299,718	256,226	309,151	304,492	352,345	318,490	
55,610,666	61,572,871	59,170,374	39,971,929	136,267,062	132,264,858	128,688,803	104,963,726	
13	519	5,949	2,536	234,701	242,100	259,003	230,995	12
26	1,004	5,624	1,932	428,673	495,531	541,961	482,357	
2,011	1,729	1,174	191	2,457,131	2,694,769	2,446,800	1,990,574	13
6,386	4,221	3,007	559	42,206,017	44,750,649	41,283,758	32,662,269	
190	33	27	33	828,979	990,569	1,138,633	971,200	14
353	334	183	262	1,582,585	1,977,598	2,145,446	1,763,207	
-	-	-	-	1,682,912	1,620,333	1,055,322	526,804	15
6,765	5,559	8,814	2,753	45,900,187	48,844,111	45,026,487	35,434,637	
977,861	810,436	835,391	897,488	1,186,255	1,229,885	1,420,817	1,254,463	16
447,657	344,101	347,916	357,543	553,605	552,407	655,824	531,056	
15,108	18,436	16,453	11,663	15,169	19,430	17,363	11,794	17
769,810	853,938	705,063	319,205	773,247	900,097	740,637	321,714	
333,677	303,214	343,394	276,884	334,544	304,921	344,937	277,532	18
1,089,397	1,078,178	1,189,375	761,492	1,093,382	1,097,223	1,208,210	767,688	
2,907,872	2,956,844	2,952,867	2,000,730	3,126,920	3,348,543	3,431,591	2,350,076	
102,927	151,834	246,583	111,250	113,218	162,851	277,081	156,569	19
209,644	337,785	486,012	182,027	229,469	359,973	548,642	249,108	
42,461	52,701	60,020	48,364	45,066	55,335	61,861	48,369	20
686,444	672,536	789,986	450,444	726,472	708,937	813,937	450,559	
3,180,403	3,137,831	2,624,432	2,601,095	3,377,856	3,241,587	2,874,972	3,080,061	21
2,355,904	2,295,071	1,957,686	1,737,096	2,525,341	2,384,627	2,143,817	2,015,972	
618,416	553,971	258,952	140,293	623,148	302,917	400,653	185,711	22
5,205,047	2,100,209	1,985,153	801,001	5,244,106	2,449,817	2,975,391	1,025,235	
256,518	247,230	303,869	278,189	572,215	508,890	560,044	563,825	23
394,265	373,771	496,088	483,516	864,414	842,490	1,021,053	875,451	
280,802	274,560	437,424	144,948	725,084	705,433	1,832,998	642,715	24
35,700	34,741	65,530	20,722	68,828	66,977	180,546	62,311	
22,717	51,405	90,839	365,393	52,148	206,288	321,924	599,385	25
234,195	421,129	733,618	2,516,679	478,201	1,740,035	2,587,498	4,249,550	
9,713,631	7,176,308	7,164,969	6,898,762	10,892,737	9,817,721	11,302,256	10,021,904	

13.—Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
I. Agricultural and Vegetable Products					
—concluded.					
B. OTHER THAN FOOD—concluded.					
1	Plants, trees, shrubs and vines..... \$	56,012	67,552	82,033	59,722
Rubber—					
2	Raw (incl. balata)..... lb.	165,212	420,326	9,251	21,486
	\$	65,604	79,530	4,674	9,261
3	Recovered..... cwt.	—	5	—	—
	\$	—	6	—	—
4	Thread..... lb.	9,057	20,200	32,203	26,555
	\$	11,533	20,893	31,452	24,984
5	Pneumatic tire casings..... No.	186	759	657	1,197
	\$	1,831	3,531	7,626	13,088
6	Inner tubes, n.o.p..... No.	74	40	40	581
	\$	169	316	119	615
	Totals, Rubber ¹ \$	724,496	697,774	576,582	531,504
Seeds—					
7	Clover..... lb.	356,939	1,193,854	552,242	431,301
	\$	92,073	209,378	96,074	65,707
8	Flax..... bush.	12	179	—	156
	\$	818	1,282	—	521
9	Timothy..... lb.	—	—	—	12,320
	\$	—	—	—	1,897
	Totals, Seeds ¹ \$	263,882	360,348	342,666	245,146
Tobacco—					
10	Unmanufactured..... lb.	22,311	44,909	2,088	74,646
	\$	29,625	55,630	1,654	37,282
11	Cut..... lb.	134,362	124,321	114,046	99,263
	\$	464,451	430,460	393,212	346,089
12	Other manufactured..... \$	307,239	292,155	316,890	274,794
	Totals, Tobacco..... \$	801,315	778,245	711,756	658,165
13	Broom corn..... \$	—	166	—	—
14	Hay..... ton	—	—	—	—
	\$	—	—	—	—
15	Starch, including farina, etc..... lb.	232,045	201,863	146,596	108,937
	\$	13,366	11,966	9,693	7,466
16	Tar, pine, crude..... gal.	2,678	9,726	4,748	617
	\$	955	1,608	893	414
17	Turpentine, spirits of..... gal.	53	2,573	159	311
	\$	121	1,527	261	321
	Totals, Agricultural and Vegetable Products—B. OTHER THAN FOOD¹.... \$	41,008,654	43,631,325	41,778,766	31,861,107
	Totals, Agricultural and Vegetable Products..... \$	51,133,838	53,670,561	51,279,282	41,762,787
II. Animals and Animal Products.					
Animals—					
18	For exhibition..... \$	—	1,400	7,000	660
19	For improvement of stock..... \$	207,829	242,486	208,579	211,882
20	Bone dust and ash, charred bone..... cwt.	15,226	16,447	12,157	8,123
	\$	35,827	54,733	24,346	20,859
21	Bone, ivory and shell products, n.o.p..... \$	51,107	17,733	15,264	13,606
22	Feathers and quills..... \$	54,879	97,081	90,456	124,171
Fishery Products, n.o.p. ² —					
Fresh—					
23	Halibut..... lb.	—	—	—	—
	\$	—	—	—	—
24	Oysters, shelled..... gal.	—	—	—	—
	\$	—	—	—	—
25	Oysters, other..... \$	—	—	—	—
26	Other fresh fish..... \$	1,594	2,995	1,074	2,245

¹Totals include other items not specified.²Not including turtles, shell products, seal skins, fish oils and ambergris.

Kingdom, United States and All Countries, fiscal years 1928-31 continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
422,013	520,716	558,430	349,134	1,490,115	1,792,171	1,913,447	1,629,504	1
52,604,713	72,629,626	70,003,561	58,892,977	58,203,865	77,716,891	73,339,973	59,559,131	2
19,335,999	16,450,361	14,052,161	6,680,821	21,392,409	17,415,202	14,715,267	6,781,261	3
102,177	178,593	170,868	133,343	102,187	178,598	170,868	133,343	4
873,123	1,249,054	1,148,055	661,485	873,243	1,249,060	1,148,065	661,485	5
227,935	208,443	233,112	257,398	237,023	228,701	265,315	294,721	6
286,493	219,692	220,347	217,867	298,053	240,635	251,799	250,180	7
21,186	20,146	19,808	40,024	21,381	20,908	21,082	41,243	8
262,713	234,602	274,554	321,489	264,721	238,170	285,343	334,890	9
45,715	20,979	3,731	17,197	45,795	21,019	3,871	17,839	10
88,392	30,922	9,555	20,733	88,580	31,238	9,882	21,422	11
23,775,356	21,332,253	18,586,040	9,797,939	26,671,064	23,090,983	20,025,316	10,564,737	12
930,584	640,320	786,136	922,417	2,138,336	1,907,818	1,350,598	2,139,273	13
219,160	124,698	136,556	142,605	498,081	346,280	235,283	315,672	14
38	20,290	50,046	1,896	313,830	399,964	1,558,993	525,295	15
102	33,945	94,992	6,159	576,441	715,358	3,190,199	1,183,542	16
8,247,363	7,194,155	8,054,238	11,478,574	8,247,363	7,220,905	8,054,238	11,490,894	17
408,676	444,656	543,873	1,012,701	408,676	448,339	543,873	1,014,598	18
1,079,220	1,011,205	1,323,192	1,629,371	2,280,536	2,242,651	5,061,255	3,395,757	19
16,853,796	17,441,819	15,878,880	15,092,356	18,475,772	18,726,618	17,113,472	16,580,394	20
5,594,946	5,618,975	5,363,643	4,335,903	7,018,880	6,766,285	6,471,626	5,488,949	21
173,065	168,756	177,180	144,661	337,130	317,921	318,400	270,661	22
193,820	192,519	202,452	167,239	673,376	636,091	609,376	523,115	23
70,313	83,940	94,555	76,975	508,860	536,447	540,362	451,683	24
5,859,079	5,895,434	5,660,650	4,580,117	8,201,116	7,938,823	7,621,364	6,463,747	25
377,883	425,035	462,254	339,784	377,883	427,636	462,254	339,784	26
8,484	5,380	4,502	4,753	8,484	5,380	4,502	4,753	27
129,035	83,192	61,715	66,335	129,035	83,192	61,715	66,335	28
2,880,909	3,474,743	3,231,275	2,582,334	6,566,004	7,169,134	7,209,807	6,961,051	29
162,489	228,533	165,820	139,232	303,952	355,357	277,185	230,797	30
405,546	420,161	344,329	237,490	424,337	466,634	438,921	279,632	31
102,910	111,360	91,660	49,708	108,446	122,409	113,984	60,827	32
989,301	1,078,294	1,171,338	1,134,074	995,395	1,081,359	1,172,082	1,134,500	33
582,275	594,346	611,517	476,932	587,422	596,445	612,572	477,722	34
46,598,367	42,094,581	39,581,759	27,608,452	101,918,498	100,865,386	98,360,014	72,665,052	35
102,209,033	103,667,472	98,752,133	67,580,381	238,185,560	233,130,244	227,048,817	177,628,778	36
1,381,411	1,845,326	1,558,629	1,264,650	1,381,411	1,846,726	1,565,629	1,272,316	37
455,260	493,891	496,545	298,891	698,414	738,119	737,405	525,882	38
34,405	32,824	25,755	34,401	57,688	59,075	47,295	44,509	39
137,286	112,910	87,912	88,967	183,459	194,336	151,013	118,113	40
186,581	227,902	231,276	168,908	300,070	303,232	307,328	262,447	41
89,954	138,297	113,367	71,558	207,168	316,696	266,145	249,630	42
889,807	650,558	100,413	431,286	1,771,212	1,578,063	1,171,048	1,064,796	43
87,018	64,048	7,659	36,864	180,125	169,649	134,736	114,114	44
126,569	152,474	138,085	125,985	126,569	152,474	138,085	125,985	45
330,911	381,524	360,596	303,724	330,911	381,524	360,596	303,724	46
24,980	24,810	25,113	20,675	25,283	24,954	26,590	20,928	47
166,141	227,869	194,274	178,681	310,161	408,165	397,188	372,590	48

13. Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
II. Animals and Animal Products—continued.					
Fishery Products, n.o.p. ² —concluded.					
	Dried, Salted, Smoked or Pickled—				
1	Cod..... lb.	—	32,526	—	400
	\$	—	3,606	—	36
2	Herring..... lb.	1,021,491	1,444,314	1,414,983	1,448,875
	\$	81,535	114,218	108,471	104,899
3	Other..... \$	1,230	5,408	10,842	16,555
Canned—					
4	Sardines, 8 oz. or less..... box	85,226	56,155	86,766	130,829
	\$	7,974	3,589	7,114	7,956
5	Sardines, other..... box	1,155	1,942	180,739	439,536
	\$	206	245	17,069	43,668
6	Other canned fish..... \$	127,248	112,510	110,655	53,440
	Totals, Fishery Products, n.o.p. ¹ \$	226,045	251,542	262,666	235,661
Furs and Fur Skins—					
Unmanufactured—					
7	Undressed (including marine)..... \$	916,967	874,341	611,781	366,065
8	Other..... \$	278,212	200,546	161,859	92,983
9	Manufactured..... \$	38,692	36,186	38,974	24,432
	Totals, Furs and Fur Skins..... \$	1,233,871	1,111,073	812,614	483,480
10	Bristles, animal..... lb.	18,376	8,349	6,338	7,843
	\$	20,023	11,973	11,993	14,396
11	Hair and mfrs. of, n.o.p..... \$	14,425	23,454	10,746	9,264
Hides and Skins—					
12	Calf..... cwt.	—	—	1,907	—
	\$	—	—	25,778	—
13	Cattle..... cwt.	5,636	3,852	5,155	1,687
	\$	109,167	75,350	73,203	19,962
14	Sheep..... cwt.	87	1,029	114	—
	\$	1,439	29,456	5,104	—
	Totals, Hides and Skins ¹ cwt.	6,419	5,458	8,064	1,849
	\$	128,244	115,880	128,689	21,979
Leather—					
15	Unmanufactured..... \$	1,501,004	1,280,952	1,170,663	668,814
Manufactured—					
Boots and shoes, n.o.p.—					
16	Men's..... pair	221,940	191,099	210,936	229,670
	\$	683,343	680,259	721,585	592,306
17	Women's..... pair	55,746	49,104	47,631	63,451
	\$	99,441	93,210	87,482	80,619
18	Children's..... pair	51,232	59,252	49,371	73,801
	\$	41,756	55,330	46,124	45,684
19	Gloves and mitts..... \$	175,570	136,978	156,455	121,505
	Totals, Leather ¹ \$	2,837,381	2,564,152	2,448,336	1,747,599
Meats—					
20	Beef, fresh..... lb.	1,020	132,084	303,655	—
	\$	98	12,080	31,491	—
21	Mutton, fresh..... lb.	11,716	—	39,884	—
	\$	1,003	—	4,249	—
22	Pork, fresh..... lb.	—	—	—	—
	\$	—	—	—	—
23	Bacon and hams..... lb.	89,931	1,658	1,178	1,195
	\$	12,393	712	589	519
24	Canned meats..... lb.	542,950	637,485	252,024	1,057,094
	\$	110,960	99,526	59,784	192,590
25	Pork, barrelled in brine..... lb.	600	—	—	400
	\$	87	—	—	22
26	Pork, dry salted..... lb.	—	—	—	—
	\$	—	—	—	—
27	Sausage..... lb.	43	64	—	285
	\$	42	29	—	95
28	Soups, all kinds..... \$	4,070	1,512	2,302	1,087
	Totals, Meats ¹ \$	310,040	277,679	251,871	325,51

¹ Totals include other items not specified.² Not including turtles, shell products, seal skins, fish oils and ambergris.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
26,787	16,525	14,444	17,143	11,775,343	8,173,867	7,428,084	7,796,040	1
3,927	2,139	1,702	1,953	509,375	400,624	348,270	282,171	
674,918	674,980	514,576	705,853	6,678,669	6,861,121	5,694,866	6,396,878	2
71,989	67,099	34,994	45,544	318,915	660,002	289,749	300,183	
38,353	36,042	38,050	25,236	203,353	197,558	214,430	145,807	3
35,417	58,037	127,670	87,727	7,319,532	8,342,256	8,593,229	6,070,765	4
4,272	6,522	11,296	8,835	619,452	651,451	706,717	453,192	
6,747	12,910	51,004	64,260	113,412	145,214	415,881	676,826	5
1,496	2,450	6,136	7,692	27,853	37,590	59,091	83,397	
239,675	403,914	442,878	250,229	571,095	820,716	937,554	595,453	6
1,067,487	1,320,073	1,239,603	973,126	3,290,015	3,685,037	3,695,431	2,885,203	
11,097,336	11,862,535	7,206,227	5,084,581	13,289,863	14,069,793	8,476,974	5,625,411	7
1,110,625	1,185,205	1,669,599	1,737,006	3,206,436	2,836,391	3,180,994	2,636,421	8
96,028	194,985	201,684	169,881	157,522	259,656	295,981	221,448	9
12,303,989	13,242,725	9,077,510	6,991,468	16,653,821	17,165,840	11,953,949	8,783,280	
198,489	226,826	222,383	202,903	260,994	273,835	279,978	276,358	10
291,040	329,557	395,934	241,065	364,226	385,401	439,417	315,416	
159,127	257,123	379,978	239,411	194,460	324,699	447,712	280,847	11
79,788	55,737	59,475	36,217	88,507	60,580	67,715	46,599	12
2,194,407	1,767,450	1,547,543	932,880	2,461,515	1,929,292	1,754,982	1,223,285	
353,256	275,786	259,266	133,436	534,816	384,367	369,115	251,699	13
6,824,780	6,099,308	3,713,055	1,270,522	10,324,681	8,613,120	5,460,207	2,731,898	
38,317	32,611	33,674	28,533	38,811	55,874	35,024	29,299	14
980,513	991,438	865,753	361,490	990,881	1,086,080	916,766	371,057	
480,058	378,135	362,830	212,006	678,670	507,773	486,442	345,439	
10,184,917	9,286,066	6,267,935	2,831,309	14,140,338	12,429,221	8,402,075	4,704,924	
4,398,312	4,637,927	4,679,656	3,490,686	5,960,105	6,009,148	5,919,500	4,311,261	15
110,802	80,668	102,382	91,507	337,534	275,937	319,780	330,243	16
327,068	256,927	285,000	214,371	1,018,232	943,269	1,017,428	824,409	
292,373	369,165	421,680	474,626	359,917	471,964	554,150	612,125	17
1,065,140	1,355,865	1,432,055	1,326,311	1,205,218	1,598,989	1,734,942	1,594,831	
21,495	24,258	43,282	46,889	75,005	84,367	94,107	127,058	18
20,069	21,888	33,868	33,525	64,225	78,476	83,606	87,689	
14,517	15,999	14,964	16,206	883,059	1,060,046	1,546,742	1,425,073	19
6,843,848	7,235,884	7,352,782	5,736,383	10,518,094	10,998,029	11,537,331	9,171,686	
128,849	124,831	191,286	382,170	331,928	3,292,158	4,536,114	2,003,705	20
60,258	58,873	82,516	73,195	73,499	309,643	452,602	198,936	
727,661	574,400	459,233	393,776	2,295,163	4,003,484	4,979,227	1,784,878	21
165,094	134,882	111,715	72,891	362,926	563,080	661,687	217,503	
1,137,362	523,876	1,179,597	948,880	1,137,362	523,876	1,179,597	948,880	22
185,532	85,605	178,696	137,442	185,532	85,605	178,696	137,442	
2,792,761	2,876,625	7,720,204	6,323,422	2,883,016	2,878,599	7,721,635	6,333,430	23
336,795	379,994	1,121,267	926,756	349,318	380,831	1,121,557	929,758	
284,482	395,996	512,710	393,158	4,022,968	5,918,875	7,029,656	8,292,069	24
63,617	75,333	96,443	87,037	558,630	802,422	932,488	1,134,836	
7,753,592	9,893,248	11,566,469	7,531,037	7,758,322	9,895,648	11,574,669	7,533,637	25
895,477	1,151,676	1,298,312	775,589	896,070	1,152,035	1,299,418	775,863	
788,053	1,229,143	1,800,031	1,246,940	788,053	1,229,143	1,800,151	1,246,940	26
101,589	171,908	251,489	181,959	101,589	171,908	251,508	181,959	
457,839	490,625	588,232	453,460	458,620	496,316	594,500	456,681	27
163,646	178,376	218,775	163,904	164,018	180,717	220,488	164,818	
1,459,869	1,847,074	1,955,277	1,472,636	1,464,731	1,850,607	1,974,052	1,479,070	28
3,609,366	4,282,706	5,634,979	4,104,059	4,585,535	5,904,976	7,599,473	5,584,055	

13.—Principal Imports into Canada for Consumption from United

		United Kingdom.			
No.	Item.	1928.	1929.	1930.	1931.
II. Animals and Animal Products—concluded.					
Milk and Its Products—					
1	Butter..... lb.	1,325,190	610,570	1,128,672	291,380
	\$	457,809	228,512	413,369	75,553
2	Cheese..... lb.	86,815	75,768	194,885	52,779
	\$	28,999	28,938	58,357	20,144
3	Other..... \$	5,101	5,766	2,584	4,100
Oils, Fats, Greases and Waxes—					
4	Cod-liver oil..... gal.	1,945	2,440	7,179	3,140
	\$	2,050	3,344	6,615	1,890
5	Grease, rough, for mfr. of soaps and oils. . cwt.	64	—	2,446	1,845
	\$	389	—	19,714	14,745
6	Lard..... lb.	650	96	48	14,888
	\$	123	19	10	1,320
7	Lard compound..... lb.	22,857	22,400	11,550	5,771
	\$	2,342	2,416	1,139	501
	Totals, Oils, Fats, etc. ¹ \$	20,245	18,144	44,537	34,999
8	Eggs in shell..... doz.	85	13,542	48	92
	\$	197	3,031	281	217
9	Eggs, n.o.p..... lb.	70,974	722,161	3,588	14,082
	\$	17,752	120,992	1,632	4,994
10	Gelatine..... lb.	332,724	296,785	326,084	480,241
	\$	66,872	67,525	74,633	108,615
11	Glue, powdered or sheet..... lb.	2,159,295	2,126,674	2,145,469	1,598,310
	\$	224,431	250,521	237,632	167,187
12	Sausage casings..... \$	29,363	—	—	48,278
	Totals, Animals and Animal Products ¹ .. \$	6,090,435	5,664,451	5,288,528	3,783,222
III. Fibres and Textiles.					
Cotton—					
13	Raw, including linters..... lb.	92,266	15,954	332,455	1,085,506
	\$	11,221	3,343	73,134	187,888
Yarns, Thread and Cordage—					
14	Rovings, yarns, etc., for sewing, packag- ing, etc..... lb.	—	173,991	149,783	193,748
	\$	—	108,208	72,169	73,495
15	Cordage and twine..... lb.	231,145	107,662	139,189	67,283
	\$	65,381	28,480	30,477	14,589
16	Crochet and knitting..... lb.	3,156	850	805	199
	\$	5,738	1,065	1,325	335
17	Yarn, No. 40 and finer, mercerized lb.	876,604	360,216	217,614	152,712
	\$	640,295	302,261	186,851	126,095
18	Yarn, two or more strands, for mfr. of thread..... lb.	—	353,857	356,541	424,941
	\$	—	311,574	307,716	319,929
Piece Goods—					
19	Not bleached..... yd.	9,329,995	8,659,477	5,981,914	6,534,743
	\$	757,359	885,553	633,677	516,703
20	Canton flannel, etc..... yd.	563,567	385,695	417,893	171,907
	\$	98,356	107,002	100,151	42,301
21	Plain shirtings, etc..... yd.	771,047	872,944	449,971	292,216
	\$	123,445	131,815	63,627	35,760
22	Bleached or mercerized..... yd.	4,890,715	6,676,947	6,690,034	5,155,541
	\$	800,256	1,012,796	1,051,594	736,663
23	Printed, n.o.p..... yd.	5,470,924	8,339,879	7,148,496	7,049,373
	\$	1,147,180	1,677,236	1,384,481	1,189,440
24	Yarn or piece dyed..... yd.	18,418,949	16,684,921	13,762,158	8,977,156
	\$	3,948,931	3,392,417	2,642,444	1,584,050
25	With cut pile (velveteens and corduroys) yd.	1,162,624	1,481,472	1,337,479	855,070
	\$	711,028	802,239	704,130	398,387
Lace and Embroidery—					
26	Embroideries..... \$	28,786	37,237	63,600	66,143
27	Lace, net and mfrs. of..... \$	1,134,176	707,236	628,774	445,776
Wearing Apparel—					
28	Socks and stockings..... doz. pr.	19,864	11,051	19,090	12,384
	\$	48,841	29,860	51,441	32,115
29	Other clothing..... \$	372,334	489,955	443,866	309,794
30	Blankets, household..... \$	43,252	17,644	26,645	24,823
31	Curtains..... \$	—	299,068	253,045	196,581
32	Handkerchiefs..... \$	919,679	743,023	813,442	562,259
33	Quilts, etc., not coloured..... \$	284,161	145,442	133,718	85,569
34	Sheets and pillow-cases, not coloured..... \$	309,230	371,371	429,376	308,161
	Totals, Cotton ¹ \$	13,791,342	13,498,581	11,706,968	8,419,654

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
104,079	46,681	176,905	26,156	15,626,007	25,609,915	41,919,372	16,500,801	1
43,003	21,474	76,814	10,658	5,532,910	9,028,528	14,471,688	4,786,521	
471,544	357,281	386,370	269,207	1,669,992	1,936,196	2,063,898	1,685,045	2
186,204	135,204	135,468	82,528	570,141	572,049	627,107	465,666	
35,710	40,496	60,100	66,152	76,608	90,600	116,443	93,905	3
34,657	14,567	8,757	15,364	251,480	181,566	210,183	218,571	4
28,526	16,364	12,222	24,650	248,563	204,872	179,717	189,681	
128,240	112,470	139,612	219,235	142,065	122,389	156,330	222,462	5
1,042,549	972,775	1,119,678	1,146,778	1,130,155	1,052,082	1,251,280	1,169,661	
453,101	948,175	948,143	928,102	453,938	948,271	948,204	944,221	6
48,508	110,386	95,715	99,941	48,676	110,405	95,728	101,436	
237,552	1,374,756	301,470	1,159,275	1,075,009	1,510,132	651,797	1,455,205	7
24,507	131,975	29,716	112,737	88,959	144,243	60,700	132,798	
1,456,375	1,528,618	1,540,209	1,610,099	1,931,457	1,946,187	2,020,852	1,961,524	
935,983	1,078,258	2,796,383	113,566	1,000,278	1,138,207	2,853,277	158,210	8
449,894	380,323	936,422	40,959	476,605	395,513	950,357	52,547	
793,319	412,150	496,667	613,514	1,625,956	2,861,183	686,003	1,708,906	9
197,431	112,879	226,133	270,132	402,790	651,541	329,971	680,492	
257,573	298,465	264,452	195,201	1,350,782	1,698,167	1,763,807	1,904,880	10
215,062	230,422	203,688	128,086	472,630	590,706	658,832	610,917	
580,000	537,190	810,672	323,697	3,245,594	3,201,625	4,454,439	2,835,860	11
77,778	60,336	109,502	43,288	367,734	371,436	498,159	287,928	
204,498	223,072	220,471	104,517	2,121,092	2,163,664	1,547,994	1,890,517	12
40,582,857	42,654,255	37,388,126	26,153,435	65,790,021	71,661,754	69,853,833	45,995,705	
146,132,355	150,839,641	125,432,749	105,657,401	146,224,621	151,126,982	126,069,888	106,722,241	13
25,616,881	29,027,014	22,123,264	12,230,306	25,628,102	29,069,275	22,243,795	12,420,886	
—	550,806	443,057	391,720	—	788,937	616,596	592,162	14
—	327,672	252,764	199,768	—	462,643	336,120	278,431	
121,325	159,238	170,209	191,205	363,142	268,664	321,838	259,647	15
45,457	76,230	68,730	79,606	113,745	105,119	100,685	94,707	
6,370	5,374	1,968	2,195	86,466	52,376	70,803	43,988	16
11,386	7,716	2,442	1,076	192,770	145,267	119,185	86,690	
1,907,128	2,193,187	1,995,637	2,382,314	2,783,752	2,560,655	2,213,251	2,535,160	17
1,611,680	1,742,302	1,814,650	1,854,248	2,252,070	2,048,350	2,001,501	1,980,561	
—	254,859	245,155	167,375	—	611,217	601,696	592,316	18
—	256,421	218,362	126,250	—	572,178	526,078	446,179	
19,359,431	36,482,811	28,787,373	20,276,446	28,772,857	45,244,920	34,847,558	26,847,811	19
1,816,804	4,060,918	3,717,540	1,861,676	2,603,026	4,965,271	4,369,275	2,402,068	
768,899	779,467	127,727	251,781	1,335,961	1,165,790	546,560	429,389	20
91,898	73,669	14,965	17,247	191,514	180,893	115,204	60,027	
1,242,955	351,070	708,464	358,046	2,047,315	1,254,738	1,158,971	664,152	21
189,534	51,074	116,673	45,082	318,944	187,124	180,483	81,847	
6,379,586	6,503,672	10,155,121	7,773,924	11,537,422	13,467,440	17,114,597	13,196,049	22
724,908	771,286	711,221	582,244	1,578,627	1,840,278	1,820,857	1,362,529	
6,154,642	9,875,889	13,857,658	12,031,958	11,989,276	18,933,308	21,669,931	19,036,624	23
1,057,622	1,620,746	2,209,219	1,667,383	2,308,691	3,475,321	3,777,415	3,015,086	
15,888,547	14,599,442	12,219,743	8,973,935	36,917,801	33,511,827	28,481,288	20,206,683	24
3,021,281	2,698,846	2,152,525	1,356,617	7,942,071	6,814,141	5,640,783	3,705,528	
241,001	486,774	310,132	379,378	1,711,505	2,346,448	1,926,984	1,419,843	25
147,361	402,393	231,582	172,139	1,171,534	1,548,547	1,172,813	690,573	
36,840	8,721	12,108	11,950	209,749	142,307	172,988	164,026	26
345,915	252,707	351,806	239,354	2,064,045	1,331,008	1,433,069	923,347	27
494,107	397,788	305,895	145,513	561,441	619,434	592,453	506,071	28
764,050	524,958	404,113	180,022	871,870	730,514	686,141	424,438	
701,114	867,654	1,091,735	861,895	1,402,516	1,624,193	1,841,665	1,957,511	29
286,845	218,898	178,378	99,463	420,612	351,897	341,764	232,422	30
—	120,910	90,946	81,232	—	601,764	526,236	418,978	31
22,290	11,568	9,195	6,464	1,385,768	1,096,139	1,192,755	834,382	32
150,118	26,904	10,108	11,968	455,004	175,549	145,825	105,793	33
36,946	21,285	12,920	18,325	357,963	394,999	444,969	335,613	34
40,621,777	46,155,922	38,513,094	23,380,263	58,279,600	63,063,246	53,826,367	35,174,433	

13.—Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
III. Fibres and Textiles—continued.					
	Flax, Hemp and Jute—				
1	Hemp, dressed or undressed..... cwt.	—	—	—	—
	\$	—	—	—	—
2	Other raw flax, etc..... \$	14,434	11,750	9,846	7,503
3	Rovings, yarns, etc., for weaving or insulation..... lb.	2,990,853	1,819,437	2,295,906	1,461,528
	\$	321,251	334,943	449,539	235,955
4	Linen thread, for sewing..... lb.	248,742	244,878	235,465	182,921
	\$	325,935	311,534	268,228	201,887
5	Other yarn, thread, etc..... \$	118,346	305,816	287,599	236,893
6	Fabrics, flax, not bleached..... yd.	3,326,228	2,176,796	2,108,894	1,840,420
	\$	484,652	366,005	345,550	266,818
7	Fabrics, flax, printed, dyed or coloured... yd.	380,316	3,091,048	3,035,877	3,378,127
	\$	120,125	575,529	544,440	517,567
8	Fabrics, flax, bleached or mercerized..... yd.	475,371	523,244	790,684	607,612
	\$	152,358	140,532	203,628	149,617
9	Fabrics, jute, woven..... yd.	21,647,876	19,603,129	12,073,132	7,314,761
	\$	2,056,560	2,153,714	1,341,508	672,936
10	Other fabrics..... \$	384,573	213,265	266,605	179,966
11	Bags..... \$	5,538	3,378	7,905	2,379
12	Handkerchiefs..... \$	449,307	531,192	621,620	482,659
13	Sheets, pillow-cases, etc..... \$	193,031	213,058	249,417	165,421
14	Table-cloths, napkins..... \$	1,115,950	835,313	901,631	623,407
15	Towels..... \$	439,520	212,882	207,215	213,723
	Totals, Flax, Hemp and Jute ¹ \$	6,655,428	7,168,088	6,748,160	4,631,011
	Silk—				
16	Raw, singles, not degummed..... lb.	367	665	113	—
	\$	2,191	1,656	577	—
17	Other raw yarns and thread..... \$	212,015	220,069	221,669	146,869
18	Fabrics, unfinished..... yd.	—	5,390	2,216	—
	\$	10,177	4,022	1,952	—
19	Velvets and plushes..... yd.	650,586	311,190	149,729	124,702
	\$	909,359	302,923	171,982	108,650
20	Ribbons..... \$	46,459	21,554	15,988	15,116
21	Fabrics, for neckties..... \$	28,571	41,607	13,263	19,042
22	Other piece goods..... \$	473,230	330,145	264,255	131,964
23	Socks and stockings..... doz. pr.	4,219	8,210	5,573	4,382
	\$	33,967	62,225	45,797	29,451
24	Other apparel..... \$	412,005	414,087	381,876	201,020
	Totals, Silk ¹ \$	2,280,572	1,616,325	1,329,586	786,458
	Wool—				
25	Raw..... lb.	6,758,498	5,508,463	4,936,225	5,491,266
	\$	2,848,722	2,670,489	2,280,124	1,810,386
26	Worsted tops, n.o.p..... lb.	6,686,377	7,473,977	5,536,787	5,815,098
	\$	4,106,622	4,904,599	3,284,030	2,244,863
27	Noils..... lb.	404,514	479,630	315,933	189,673
	\$	188,665	233,142	141,239	57,764
28	Yarns..... lb.	3,788,100	4,976,777	5,648,429	5,146,116
	\$	4,109,668	5,566,261	5,665,639	4,282,182
29	Fabrics, to be finished..... sq. yd.	2,402,555	2,826,983	1,839,067	1,518,503
	\$	868,408	1,159,705	750,796	546,255
30	Lustres, Italian linings..... yd.	1,096,880	782,154	535,873	328,240
	\$	598,022	463,811	321,708	191,181
31	Overcoatings..... yd.	263,149	383,331	995,152	665,883
	\$	383,738	477,258	1,194,536	829,079
32	Twoeds..... yd.	3,478,905	3,869,635	2,868,223	1,455,070
	\$	3,286,378	3,634,985	2,642,895	1,413,941
33	Worsteds, serges, coatings..... yd.	8,573,388	8,423,926	6,663,242	5,583,201
	\$	10,927,601	11,235,198	8,794,919	6,639,043
34	Other piece goods..... \$	216,150	3,778,930	3,145,413	2,446,268
35	Carpets, in the roll..... yd.	173,036	180,109	186,715	69,874
	\$	293,212	270,926	304,681	145,923
36	Carpets, other..... \$	1,033,156	1,150,299	1,094,940	566,887
37	Socks and stockings..... doz. pr.	534,134	535,347	526,969	424,766
	\$	2,268,070	2,211,822	2,264,536	1,752,223
38	Underwear..... \$	333,430	437,757	323,791	312,599
39	Women's and children's outer garments... \$	195,382	216,107	256,350	176,138
40	Other apparel..... \$	2,488,223	1,447,898	1,362,160	961,326

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
96,020	24,231	37,143	25,402	69,503	27,390	42,620	28,423	1
1,075,207	205,949	306,438	154,374	1,106,248	234,103	358,827	176,772	2
149,443	157,077	171,650	123,591	172,580	168,026	183,976	133,448	3
757,529	944,402	538,369	713,328	3,956,563	2,834,112	2,883,627	2,198,486	4
125,696	148,899	81,586	99,557	497,747	507,839	544,568	339,817	5
6,224	15,692	16,965	10,296	269,754	267,144	255,213	197,613	6
7,901	17,672	23,425	13,999	342,757	333,043	293,787	217,955	7
25,796	36,764	38,890	20,304	184,794	406,810	384,112	280,766	8
76,699	8,074	6,571	4,412	3,542,825	2,300,252	2,257,401	2,021,252	9
9,799	1,966	1,838	1,535	520,354	390,468	367,680	295,574	10
25,572	53,738	25,915	33,410	413,600	3,198,404	3,107,234	3,454,917	11
8,123	14,639	18,958	15,679	135,509	618,605	583,789	550,309	12
16,815	1,993	6,887	4,635	506,347	564,404	845,163	639,298	13
2,968	464	4,206	2,055	161,045	157,329	229,827	165,383	14
11,845,003	4,693,533	2,578,057	1,831,654	101,820,240	98,763,425	94,822,973	85,048,023	15
985,143	354,339	163,977	92,295	7,862,818	8,167,067	6,489,887	4,013,257	16
3,806	165,761	166,303	94,159	406,100	519,632	483,220	318,486	17
210,623	206,962	209,457	184,850	278,678	254,816	283,219	255,928	18
1,886	8,819	10,313	27,892	502,491	665,305	768,522	656,440	19
4,688	5,785	2,011	6,866	357,709	230,352	262,008	189,548	20
8,509	5,474	4,191	5,537	1,313,057	877,127	929,660	673,787	21
7,688	17,581	5,410	3,471	502,415	237,830	216,033	237,470	22
2,751,807	1,976,060	2,183,262	1,691,715	15,132,946	15,973,551	14,955,195	10,561,171	23
710,238	880,135	1,118,325	1,354,245	938,459	1,282,815	1,668,972	1,954,395	24
3,856,327	4,528,205	5,600,442	4,665,973	5,073,511	6,547,545	8,360,968	6,695,844	25
144,279	117,956	155,046	205,550	394,054	350,971	404,056	368,845	26
-	45,723	25,314	879	-	6,868,185	5,069,107	2,497,478	27
1,983	45,854	25,425	935	3,930,869	3,965,131	3,344,438	1,043,164	28
21,522	46,033	45,999	53,093	1,319,765	1,474,676	1,123,210	825,878	29
36,929	102,603	119,940	102,294	1,671,209	1,866,417	1,597,328	854,466	30
181,324	127,085	130,991	102,612	929,682	444,256	423,359	348,229	31
371,038	310,228	242,439	238,542	1,457,639	1,582,080	1,508,661	1,181,154	32
1,755,516	2,074,139	1,915,021	1,784,354	11,591,891	8,757,796	6,219,672	4,549,037	33
69,298	69,298	60,101	18,263	79,145	80,923	70,197	27,132	34
537,043	581,374	495,021	124,960	621,120	683,359	582,469	194,438	35
1,400,158	2,430,372	2,808,129	2,026,293	3,377,911	4,353,102	4,491,780	2,994,142	36
8,603,718	10,700,312	11,922,663	9,488,568	29,963,007	29,615,120	27,967,557	18,885,963	37
2,757,188	4,204,026	2,517,415	1,943,026	13,865,679	14,021,917	10,334,255	10,744,883	38
885,731	1,503,316	947,382	496,927	5,128,433	5,790,470	4,306,945	3,065,661	39
580,090	218,772	15,192	29,756	7,688,373	8,128,303	5,948,454	6,413,180	40
298,470	153,426	10,427	12,430	4,831,288	5,514,743	3,671,941	2,669,832	41
35,667	38,505	20,977	46,415	444,747	518,695	345,409	236,088	42
20,633	26,296	6,620	7,194	211,081	259,844	151,513	64,958	43
23,335	3,804	79,483	142,846	3,974,053	5,111,837	5,877,804	5,356,805	44
31,145	3,938	77,242	142,447	4,356,235	5,733,444	5,870,353	4,495,816	45
-	-	-	700	4,163,148	4,436,056	3,079,311	2,471,637	46
4,072	5,121	1,765	357	1,566,806	1,850,516	1,218,988	879,285	47
5,935	2,070	1,411	90	1,103,599	788,388	541,940	329,666	48
371	1,406	7,728	128	605,360	466,539	325,460	191,987	49
613	1,843	12,317	2,770	316,227	410,469	1,327,651	1,028,350	50
17,660	22,003	25,892	5,573	435,256	541,625	1,624,321	1,269,103	51
24,833	34,074	41,038	38,207	3,812,941	4,244,478	3,126,691	1,790,512	52
38,144	39,373	46,374	44,129	3,772,336	4,125,980	2,953,519	1,742,821	53
71,062	59,841	46,374	25,895	10,712,927	10,325,958	8,314,658	6,472,918	54
26,931	446,060	88,945	54,536	13,437,564	13,727,659	10,908,771	7,914,472	55
5,444	11,895	33,131	266,451	379,975	5,984,851	5,210,909	4,269,008	56
9,213	9,971	23,653	12,643	216,377	216,345	271,733	99,634	57
178,701	304,981	251,269	8,893	357,623	342,290	390,355	175,534	58
15,443	14,455	12,357	97,180	2,448,769	2,961,891	2,854,554	1,590,406	59
51,254	40,688	39,030	6,036	553,090	553,682	549,323	440,398	60
10,901	13,173	9,824	19,168	2,345,285	2,277,729	2,359,794	1,823,653	61
185,979	261,225	298,222	6,687	362,688	462,729	467,278	343,149	62
343,206	295,624	261,220	225,515	523,986	591,626	644,101	454,545	63
			170,520	3,125,946	1,862,407	1,715,341	1,188,763	64

13. Principal Imports into Canada for Consumption from United

		United Kingdom.			
No.	Item.	1928.	1929.	1930.	1931.
III. Fibres and Textiles—concluded.					
Wool—concluded.					
1	Blankets..... pair	159,036	180,430	159,673	114,463
	\$	750,225	827,281	816,548	591,064
2	Felt, pressed..... lb.	104,353	76,580	60,991	46,532
	\$	37,933	31,015	38,724	17,638
	Totals, Wool ¹ \$	37,264,117	41,115,840	35,040,366	25,320,303
Artificial Silk (rayon)—					
3	Rovings, yarns, warps, etc..... lb.	55,190	53,955	67,662	312,701
	\$	83,899	72,856	67,367	274,069
4	Woven fabrics, except ribbons..... yd.	—	8,432,190	9,887,111	7,839,044
	\$	3,425,072	4,697,763	4,821,398	3,441,024
5	Socks and stockings..... doz. pr.	11,729	73,328	74,264	37,458
	\$	58,782	360,829	341,882	170,329
	Totals, Artificial Silk ¹ \$	3,647,459	5,301,509	5,396,552	4,016,649
Other Fibres—					
6	Mexican istle, or tampico..... cwt.	196	45	519	377
	\$	2,268	841	7,518	3,916
7	Manila and sisal..... cwt.	6,057	4,712	—	1,160
	\$	48,791	37,919	—	7,386
8	Binder twine..... cwt.	4,549	29,022	25,360	22,600
	\$	55,633	325,336	343,108	277,334
	Totals, Other Fibres ¹ \$	178,268	453,753	493,112	348,240
Mixed Textile Products—					
9	Rags, wastes, etc..... \$	286,933	480,499	440,901	212,696
10	Fishing lines, nets, ropes, etc..... \$	1,347,762	1,086,777	1,273,651	1,061,916
11	Twine and cordage, n.o.p..... lb.	—	756,980	2,025,964	1,915,016
	\$	350,763	281,066	293,009	257,204
12	Artificial leather..... \$	685	611	841	510
13	Cotton fabrics, coated, rubberized, etc.... \$	419,058	552,911	386,295	265,847
14	Oilcloths, all kinds..... sq. yd.	693,108	673,065	619,052	493,572
	\$	517,801	487,482	467,798	371,802
15	Embroideries, lace, etc., n.o.p..... \$	—	720,398	684,404	625,709
16	Garments, knitted, n.o.p. (incl. underwear) \$	474,822	1,028,779	1,136,427	898,088
17	Gloves, knitted or fabric..... \$	588,921	511,962	419,500	322,229
18	Hat shapes, crowns, etc..... \$	244,556	273,867	274,899	140,155
19	Hats, felt..... \$	725,291	740,787	616,434	303,876
20	Hats, caps, etc., n.o.p..... \$	713,914	506,186	289,872	219,047
21	Braids, etc., for hats..... \$	11,369	4,386	7,978	17,907
22	Surgical dressings, etc..... \$	151,124	156,036	232,461	199,496
	Totals, Mixed Textiles ¹ \$	7,545,990	7,866,964	7,529,077	5,684,805
	Totals, Fibres and Textiles ¹ \$	71,464,170	77,021,060	68,243,821	49,207,120
IV. Wood, Wood Products and Paper.					
Wood, Unmanufactured or Partially Mftd.					
23	Railroad Ties..... No.	—	—	—	—
	\$	—	—	—	—
Sawmill Products—					
Lumber, dressed on one side—					
24	Chestnut..... M ft.	—	—	—	—
	\$	—	—	—	—
25	Gumwood..... M ft.	4	—	—	—
	\$	486	—	—	—
26	Oak..... M ft.	—	—	10	8
	\$	—	—	5,183	2,770
27	Pitch pine..... M ft.	—	2	—	—
	\$	—	418	—	—
28	Whitewood..... M ft.	19	—	—	—
	\$	8,000	—	—	—
29	Lumber, dressed on one side and edges. M ft.	—	2	7	—
	\$	—	279	2,787	—
30	Veneers..... \$	2,874	3,377	6,729	5,142
	Totals, Wood, Unmfrd. or Partially Mfrd. ¹ \$	34,686	19,983	49,410	28,953

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
11,082	27,298	47,848	38,965	172,651	228,487	251,370	159,769	1
43,389	66,239	136,538	122,086	800,390	925,462	1,015,465	729,848	2
174,023	168,475	722,437	86,984	483,950	504,900	1,071,691	357,751	
75,715	77,625	136,289	61,474	240,665	262,561	360,820	216,817	
2,676,191	3,601,113	3,021,193	1,934,194	48,832,356	54,428,616	46,644,026	33,637,656	
138,588	63,878	54,904	64,215	1,563,020	2,240,704	2,132,362	2,569,574	3
350,587	87,392	80,144	105,435	1,733,546	2,153,747	1,678,450	1,760,829	
	3,598,442	4,416,435	3,141,720		15,313,240	20,049,045	21,474,671	4
605,767	1,413,483	1,750,850	1,269,659	5,518,223	7,850,519	9,466,146	8,000,416	
46,905	297,054	373,728	151,510	61,978	387,545	517,008	375,357	5
113,577	635,780	745,233	287,924	193,342	1,044,052	1,249,267	698,153	
1,212,244	2,382,566	2,907,535	1,957,050	7,860,718	11,876,363	13,418,910	11,521,404	
4,216	24,667	3,872	1,044	5,417	25,105	4,790	1,593	6
44,733	184,615	54,298	18,436	62,881	193,274	67,096	24,791	
479,920	709,587	453,678	469,824	524,124	745,831	459,588	485,442	7
3,829,485	5,452,567	3,773,122	2,976,763	4,255,080	5,766,251	3,822,613	3,068,576	
69,119	138,233	21,895	17,933	194,647	279,654	182,258	106,109	8
866,162	1,566,442	266,336	234,814	2,294,516	2,912,755	1,845,305	1,159,570	
5,005,464	7,581,919	4,372,057	3,401,715	7,310,586	9,795,697	6,761,901	4,720,188	
1,036,028	1,894,810	2,015,572	1,377,824	1,542,011	2,782,320	2,899,252	1,945,078	9
1,185,898	1,062,204	1,173,004	600,586	2,739,453	2,294,969	2,604,125	1,738,703	10
	451,458	983,352	634,398		2,441,706	3,283,441	2,790,376	11
118,438	118,526	269,423	126,532	490,508	432,198	596,580	414,202	
191,603	414,555	233,081	170,918	192,404	415,934	234,243	171,562	12
993,852	1,689,554	1,367,232	907,219	1,422,259	2,271,441	1,771,818	1,188,159	13
792,420	893,425	1,315,661	840,930	1,487,944	1,567,975	1,944,403	1,337,367	14
271,531	400,752	442,561	279,590	790,516	889,392	915,534	652,035	
	183,148	184,753	125,923		1,404,508	1,769,757	1,562,148	15
182,948	168,370	192,831	140,840	864,051	1,498,731	1,708,340	1,470,648	16
113,363	76,342	82,544	26,525	1,587,136	1,607,384	1,438,830	1,472,499	17
14,068	25,163	30,570	10,301	386,600	488,424	650,390	326,939	18
351,741	456,649	300,134	184,115	1,581,944	1,748,786	1,527,205	868,769	19
595,093	633,881	636,039	554,821	1,633,078	1,481,018	1,381,135	1,173,832	20
126,814	186,657	211,281	178,008	283,591	460,966	550,136	758,060	21
709,938	464,313	317,301	283,459	863,380	634,283	566,492	492,089	22
8,559,320	9,491,895	9,077,793	6,420,914	19,616,601	21,686,580	21,667,293	16,216,207	
69,430,521	81,889,787	71,997,597	48,244,419	186,994,462	206,439,173	185,241,252	130,717,022	
691,801	888,732	777,750	450,587	691,801	888,738	777,750	450,587	23
740,838	869,379	797,750	547,717	740,838	869,388	797,750	547,717	
	7,782	7,114	4,976		7,782	7,114	4,976	24
	426,894	366,771	248,956		426,894	366,771	248,956	
17,143	22,416	21,082	14,679	17,274	22,499	21,156	14,679	25
861,127	942,458	961,218	611,835	875,174	951,237	968,525	611,835	
45,912	45,996	40,699	25,385	45,913	46,098	40,800	25,435	26
2,943,199	2,791,033	2,685,170	1,457,227	2,943,375	2,802,491	2,701,062	1,464,905	
31,728	41,480	32,212	10,939	31,728	41,482	32,212	10,939	27
1,077,036	1,318,488	1,111,394	332,131	1,077,036	1,318,606	1,111,394	332,131	
8,593	11,564	12,919	6,193	8,612	11,564	12,919	6,193	28
421,434	585,067	651,513	312,185	429,434	585,067	651,513	312,185	
7,363	18,498	13,243	7,579	7,391	18,554	13,116	7,581	29
368,013	686,107	589,915	361,390	368,876	687,691	594,528	361,513	
781,724	993,600	1,166,542	875,242	784,598	997,463	1,212,631	890,284	30
13,908,825	16,245,433	14,833,901	9,482,480	14,269,634	16,639,349	15,348,150	9,808,816	

13.—Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
IV. Wood, Wood Products and Paper—concl.					
Wood, Manufactured—					
1	Barrels, empty..... No.	6,492	9,614	1,981	35
	\$	46,641	103,552	23,279	208
2	Staves, of oak..... M	—	—	—	—
	\$	—	—	—	—
3	Other cooperage..... \$	142	184	—	34
4	Corks..... lb.	52,499	69,597	30,904	24,884
	\$	52,511	48,396	22,793	13,800
5	Other cork mfrs..... \$	7,903	3,735	4,129	3,855
6	Turned and carved wood..... \$	19,807	18,837	15,650	13,725
7	Wood-pulp..... cwt.	3	—	—	15
	\$	16	—	—	69
8	Doors..... \$	—	919	534	—
9	Fibre, kartavert, and manufactures of.... \$	3,991	4,499	1,414	1,000
10	Furniture..... \$	388,540	544,649	627,691	330,156
	Totals, Wood, Manufactured ¹ \$	691,626	933,229	931,457	558,676
	Totals, Wood and Wood Products ¹ \$	726,312	953,222	980,867	587,629
Paper—					
11	Chipboard, not pasted..... lb.	—	—	—	—
	\$	—	—	—	—
12	Newsboard..... lb.	59,193	115,230	103,584	316,984
	\$	5,038	9,921	8,271	17,521
13	Strawboard..... lb.	25,711	560	21,088	10,891
	\$	751	18	546	516
14	Other paper boards..... \$	24,971	40,400	21,324	28,181
15	Book grades of paper..... lb.	394,487	51,179	23,887	24,581
	\$	26,705	3,845	1,929	2,569
16	Book and printing paper, not coated, n.o.p. lb.	1,709,271	2,213,659	2,518,513	2,046,312
	\$	155,944	188,881	213,895	171,552
17	Printing paper, n.o.p..... lb.	445,153	349,869	683,097	705,835
	\$	46,332	33,664	91,434	81,307
18	Wrapping paper..... lb.	236,588	302,675	322,789	278,199
	\$	21,462	28,489	30,185	33,905
19	Writing paper and stationery, n.o.p..... \$	115,215	98,738	114,414	89,493
20	Envelopes..... M	6,572	6,676	8,077	7,304
	\$	25,138	24,691	23,099	24,640
21	Wall paper..... roll	580,461	554,641	543,340	336,463
	\$	129,730	136,750	130,884	74,565
22	Paper boxes and containers..... \$	19,773	22,233	37,795	29,806
	Totals, Paper ¹ \$	1,451,826	1,532,436	1,665,590	1,467,176
Books and Printed Matter—					
23	Newspapers and magazines..... \$	11,591	23,709	49,604	40,402
24	Photographs, chromos, engravings, prints. \$	140,044	154,308	155,351	160,603
25	Advertising pamphlets, cards, etc..... lb.	269,900	339,736	411,674	477,334
	\$	104,656	117,858	166,677	182,832
26	Advertising bills, folders and posters..... lb.	12,036	6,194	6,497	6,630
	\$	7,538	4,317	2,344	4,983
27	Labels, tags, tickets, etc..... \$	61,180	67,923	63,490	49,038
28	Bibles, hymn books, etc..... \$	193,124	173,131	158,291	158,765
29	Text books..... \$	512,489	599,607	529,701	525,108
	Totals, Books and Printed Matter ¹ \$	2,182,210	2,449,371	2,604,245	2,485,999
	Totals, Wood, Wood Products and Paper ¹ \$	4,369,348	4,935,029	5,250,702	4,540,804
V. Iron and Its Products.					
30	Iron ore..... ton	—	7	—	—
	\$	—	448	—	—
Pigs, Ingots, Blooms and Billets—					
31	Pig iron..... ton	6,455	6,499	7,872	3,016
	\$	118,356	106,599	138,774	53,661
32	Ferro-silicon and ferro-manganese..... cwt.	63,626	42,888	111,140	58,001
	\$	209,455	142,717	345,140	162,634
	Totals, Pigs, Ingots, Blooms and Billets ¹ \$	364,041	296,072	533,734	261,524
33	Scrap iron or steel..... ton	—	—	66	—
	\$	—	37	250	—

¹Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States				All Countries				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
179,788	179,828	133,034	87,034	189,305	193,150	137,734	88,590	1
345,035	372,808	179,594	82,701	400,936	486,835	210,549	85,698	
9,945	9,029	9,201	4,355	9,950	9,029	9,201	4,355	2
886,258	848,578	922,036	266,476	886,338	848,578	922,036	266,476	
268,811	329,967	406,325	280,553	269,102	330,405	406,425	280,587	3
82,516	109,396	134,349	84,397	485,568	487,849	411,540	355,298	4
69,544	113,477	125,979	97,069	317,722	362,602	298,564	269,543	
380,362	449,234	445,683	308,873	714,046	823,641	882,194	587,101	5
967,228	749,828	612,927	300,409	725,621	776,047	636,767	320,110	6
477,941	439,980	386,833	266,743	479,099	439,980	386,833	306,917	7
1,227,305	1,085,817	1,000,863	585,410	1,230,161	1,085,817	1,000,863	647,365	
546,069	585,676	595,179	347,927	546,069	586,595	595,766	347,937	8
327,568	329,439	320,485	270,999	335,509	337,542	325,691	274,503	9
1,656,660	2,298,240	3,171,620	1,896,028	2,271,777	3,228,217	4,157,460	2,526,139	10
8,960,581	10,258,234	10,590,087	6,444,443	10,730,795	12,386,421	12,707,244	8,013,842	
22,869,406	26,503,667	25,423,988	15,926,923	25,000,429	29,025,770	28,055,394	17,822,658	
1,725,340	10,602,203	8,283,864	5,445,566	1,725,340	10,602,203	8,294,364	5,445,566	11
53,248	223,496	160,727	105,741	53,248	223,496	161,092	105,741	
10,303,114	11,123,653	16,300,040	15,456,272	10,410,855	11,256,147	16,616,533	15,804,359	12
457,437	494,628	635,457	543,713	464,731	505,405	652,535	563,393	
15,625,774	8,807,912	7,857,337	984,052	17,101,236	10,319,775	9,794,235	1,196,857	13
403,947	226,466	201,920	24,803	431,601	257,916	233,333	28,980	
493,510	790,366	830,912	758,150	522,404	833,500	856,820	788,737	14
1,349,531	5,922,567	6,346,282	4,696,743	1,744,018	5,973,746	6,370,169	4,721,324	15
72,641	313,888	332,173	238,005	99,346	317,733	334,102	240,574	
4,922,973	5,110,149	6,274,952	4,523,568	6,776,394	7,423,806	8,887,899	6,742,136	16
364,550	368,223	573,617	411,865	532,469	567,625	795,531	596,531	
941,429	1,034,701	4,128,711	2,959,706	1,499,132	1,489,560	5,497,664	4,278,216	17
101,364	119,910	680,451	548,021	159,150	166,670	815,733	681,767	
12,531,582	6,562,688	6,332,143	7,207,728	14,972,124	9,342,093	8,878,158	9,932,106	18
473,811	396,771	400,384	402,265	614,436	566,943	553,700	557,915	
220,622	220,994	264,110	136,806	385,957	363,789	423,384	261,806	19
48,185	51,662	59,458	54,158	59,895	63,936	73,135	69,278	20
113,970	131,918	142,385	136,673	148,891	167,329	181,530	179,256	
3,437,066	3,426,653	2,419,010	2,348,543	4,160,417	4,170,399	3,176,029	2,758,990	21
439,312	432,074	324,728	250,249	601,127	611,806	517,658	344,092	
1,203,562	1,330,104	1,304,404	968,423	1,261,325	1,393,255	1,401,527	1,028,278	22
9,167,711	10,678,222	11,592,086	9,350,363	11,918,454	13,649,415	14,764,904	12,082,870	
2,970,786	2,827,261	4,140,690	4,116,620	2,989,406	2,860,056	4,197,860	4,165,517	23
1,064,548	1,165,732	1,172,630	1,118,132	1,322,302	1,467,556	1,500,949	1,436,476	24
5,598,118	6,347,786	7,094,787	4,914,950	5,935,204	6,778,757	7,643,516	5,545,620	25
2,594,827	3,170,259	2,863,239	1,849,975	2,723,885	3,322,241	3,080,064	2,091,157	
324,966	292,212	266,761	234,635	337,002	298,630	286,331	241,898	26
146,431	129,700	119,661	103,737	153,789	134,108	123,905	108,980	
264,508	270,679	272,341	223,884	339,074	359,036	352,399	288,186	27
169,674	161,217	162,835	161,306	509,547	461,917	461,720	468,170	28
588,116	627,253	719,244	702,187	1,198,371	1,329,989	1,352,744	1,331,503	29
11,955,111	13,382,405	14,720,169	12,860,742	14,832,041	16,539,633	18,130,779	16,136,501	
43,992,228	50,564,294	51,736,243	38,138,028	51,750,924	59,214,818	60,951,077	46,042,029	
1,010,223	1,565,042	1,639,700	868,972	1,491,234	2,272,130	2,456,919	1,428,970	30
2,227,040	3,425,168	3,995,917	2,103,470	2,889,768	4,391,269	5,020,921	3,266,402	
39,949	38,514	22,573	6,463	48,415	46,425	31,618	10,445	31
658,589	632,028	395,087	116,357	809,872	757,660	552,984	184,214	
12,133	14,318	24,606	48,149	80,598	129,568	190,648	116,581	32
117,942	117,968	96,308	368,517	367,682	483,876	629,056	600,417	
1,363,959	2,263,792	1,747,337	804,224	2,051,739	3,143,014	2,716,924	1,217,833	
117,350	138,752	134,291	102,229	120,809	141,915	136,322	104,388	33
1,418,993	1,547,549	1,485,932	976,689	1,440,575	1,571,233	1,501,754	996,275	

13.—Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
V. Iron and Its Products—continued.					
	Castings and Forgings—				
1	Axles, parts and blanks..... \$	5,758	7,924	3,903	10,622
2	Wheel tires, locomotive and car..... cwt.	115,051	86,320	90,742	50,651
	\$	539,358	415,441	440,289	244,964
	Totals, Castings and Forgings ¹ \$	596,665	456,804	496,090	316,286
	Rolling-mill Products—				
3	Band and hoop..... cwt.	146,918	37,913	108,894	22,211
	\$	473,286	150,995	366,729	218,977
4	Bars and Rails—				
	Railway rails..... ton	18	41	346	64
	\$	737	1,720	9,614	2,716
5	Other bars and rails..... cwt.	143,540	147,743	148,909	93,685
	\$	874,461	1,020,642	1,040,652	580,110
	Plates and Sheets—				
6	Boiler plate..... cwt.	46	1,361	2,277	8,223
	\$	93	2,709	4,512	20,852
7	Tinned plates..... cwt.	478,286	525,686	528,618	723,016
	\$	2,340,105	2,415,503	2,445,624	3,314,665
8	Plates, not less than 30 in. by ½ in., n.o.p. cwt.	25,407	120,684	274,848	1,925
	\$	42,792	241,390	477,975	3,453
9	Sheets, No. 14 gauge and thinner, n.o.p. cwt.	124,800	146,755	210,626	225,012
	\$	401,423	421,550	643,649	649,073
10	Galvanized sheets..... cwt.	88,347	230,774	261,109	251,415
	\$	363,357	864,285	950,300	897,328
11	Sheets for mfr. coated sheets..... cwt.	—	158,719	141,395	209,839
	\$	—	415,304	371,790	559,369
12	Skelp for pipe..... cwt.	112,604	196,846	150,862	142,028
	\$	296,698	496,690	381,370	370,652
13	Rods..... cwt.	13,054	11,151	2,209	236
	\$	16,316	14,343	3,346	547
14	Structural iron..... \$	136,608	264,846	824,746	441,562
	Totals, Rolling-mill Products ¹ \$	5,329,470	6,736,940	7,816,798	7,692,823
	Tubes, Pipe and Fittings—				
15	Boiler tubes..... \$	34,255	55,198	32,360	109,151
16	Cast iron pipe..... ton	1,048	370	978	4,209
	\$	32,840	17,537	38,373	128,913
17	Pipe fittings..... \$	10,622	15,844	10,693	21,047
	Totals, Tubes, Pipe and Fittings ¹ \$	427,137	534,580	475,249	474,406
	Wire—				
18	Barbed fencing..... cwt.	4,792	581	260	1,706
	\$	14,069	1,887	817	9,312
19	Galvanized wire, No. 9, 12 and 13 gauge, not telegraph nor telephone..... cwt.	531	627	3,394	422
	\$	1,457	3,520	19,256	1,105
20	Steel wire for rope..... cwt.	99,791	135,458	166,421	115,866
	\$	636,730	826,374	1,056,126	726,622
21	Wire rope, twisted wire, clothes lines, wire cable, etc., n.o.p. \$	229,147	255,189	303,355	242,401
	Totals, Wire ¹ \$	1,170,106	1,487,676	1,857,541	1,227,287
22	Chains..... \$	178,057	220,023	239,805	162,593
	Engines and Boilers—				
23	Boilers and parts..... \$	32,112	18,770	20,473	15,772
24	Engines, aircraft..... No.	79	192	181	70
	\$	411,418	294,529	495,016	247,315
25	Engines, automobile..... No.	—	—	1	2
	\$	—	—	1,206	12,046
26	Locomotives and parts..... No.	—	—	2	—
	\$	—	—	36,172	—
	Totals, Engines and Boilers ¹ \$	964,896	1,118,507	1,235,961	740,909

¹Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31.—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
1,823,134	1,541,635	1,025,706	404,915	1,828,892	1,549,559	1,029,609	415,892	1
107,866	122,185	118,698	89,375	223,077	208,505	209,440	140,026	2
460,144	524,850	502,913	379,428	1,000,301	940,291	943,202	624,392	
3,694,158	6,402,306	3,998,939	2,147,126	4,296,176	6,867,521	4,497,406	2,476,436	
1,156,382	1,284,895	1,113,571	525,171	1,351,442	1,388,110	1,304,352	596,451	3
3,878,142	4,338,728	4,073,654	1,896,236	4,614,506	4,677,408	4,698,834	2,313,694	
22,428	31,130	22,313	15,006	24,637	33,858	25,279	15,916	4
697,221	989,909	781,101	501,212	746,843	1,054,406	852,718	521,939	
1,850,168	3,287,886	2,307,180	671,014	2,409,185	3,930,977	3,055,374	1,338,518	5
4,948,815	8,410,381	6,028,346	2,226,951	6,451,466	10,223,968	8,069,852	3,375,738	
165,159	239,390	226,186	141,953	173,761	241,463	229,106	151,157	6
374,283	594,653	557,880	320,834	388,031	601,061	563,933	343,417	
861,344	1,093,246	1,012,559	1,064,781	1,339,650	1,618,969	1,541,177	1,787,797	7
4,627,282	5,592,924	5,258,093	5,470,952	6,967,616	8,008,574	7,703,717	8,785,617	
1,047,763	1,419,257	1,447,510	83,566	1,172,395	1,749,913	1,987,492	88,187	8
2,051,128	2,771,393	2,822,544	164,431	2,234,459	3,335,877	3,724,845	171,773	
937,323	1,466,090	1,301,158	886,239	1,112,509	1,640,672	1,552,287	1,146,375	9
3,391,451	5,086,015	4,765,475	3,139,132	3,898,284	5,566,984	5,489,780	3,852,531	
368,447	450,669	452,724	272,967	457,015	682,133	718,110	528,035	10
1,495,582	1,700,423	1,749,844	956,954	1,859,829	2,566,409	2,710,455	1,864,835	
—	502,849	675,735	890,757	—	661,568	815,030	1,100,595	11
—	1,399,481	1,934,689	2,355,811	—	1,814,785	2,306,479	2,915,180	
2,258,795	2,873,827	3,248,716	2,390,354	2,379,885	3,172,428	3,400,660	2,533,515	12
4,190,092	5,229,156	5,967,542	4,192,155	4,497,398	5,859,725	6,350,654	4,564,676	
164,951	296,690	502,383	482,023	863,336	1,096,776	1,040,878	714,693	13
333,035	572,292	955,506	783,006	1,197,762	1,634,302	1,727,773	1,093,769	
8,193,596	10,819,139	13,004,728	5,187,118	8,656,310	11,828,234	14,789,071	6,120,485	14
36,226,884	49,811,812	50,199,289	30,979,370	44,067,436	60,084,144	61,894,114	40,568,871	
810,066	935,352	1,083,311	673,214	917,547	1,092,018	1,229,700	874,656	15
967	1,601	2,438	898	6,146	5,672	5,894	8,871	16
77,556	90,316	120,092	68,570	238,222	201,527	220,761	287,143	
917,626	1,185,045	1,519,104	909,947	929,382	1,203,243	1,551,144	932,304	17
3,051,862	3,884,483	5,191,177	2,804,607	3,738,548	4,697,279	5,948,162	3,528,079	
82,530	68,208	64,642	63,426	120,517	113,229	98,721	122,608	18
273,322	224,285	201,744	187,192	383,061	353,585	316,154	334,214	
234,864	209,784	88,030	27,899	249,009	212,350	92,699	28,526	19
615,002	537,023	217,720	68,661	653,029	545,541	240,546	70,154	
6,153	19,687	12,326	4,828	105,944	155,145	178,973	121,125	20
39,098	128,258	76,792	30,360	675,828	954,632	1,135,749	759,849	
84,762	134,478	121,394	106,167	325,677	407,078	466,309	367,042	21
1,825,247	1,997,228	1,484,523	944,231	3,317,776	3,806,253	3,658,798	2,436,667	
567,022	752,418	613,428	321,094	799,177	1,030,694	885,155	510,363	22
518,256	641,365	1,018,710	342,561	550,376	660,135	1,039,183	365,207	23
32	27	41	65	114	224	222	136	24
226,897	248,876	368,517	198,632	644,908	549,622	863,533	451,350	
109,014	118,817	69,505	29,399	109,014	118,817	69,508	29,401	25
11,957,526	11,727,816	7,317,791	5,479,978	11,957,526	11,727,816	7,319,237	5,492,826	
90	121	78	78	90	121	80	78	26
558,874	1,151,286	487,112	546,702	558,874	1,151,286	523,284	546,702	
15,928,076	18,033,362	13,845,194	9,115,354	17,006,829	19,307,250	15,146,437	10,033,964	

13.—Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
V. Iron and Its Products—continued.					
Farm Implements and Machinery—					
1	Cream separators..... No.	—	521	—	—
	\$	17	11,862	—	—
2	Other dairy machinery..... \$	345	739	8,786	6,862
3	Harvesters..... No.	—	—	—	—
	\$	182	—	—	20
4	Other harvesting implements..... \$	10,342	13,736	7,813	8,601
Planting and Tillage—					
5	Drills and parts..... No.	1	2	—	—
	\$	5,150	267	1,010	8
6	Harrows and parts..... \$	3,702	2,791	2,771	27
7	Ploughs and parts..... \$	163	93	176	69
8	Other planting..... \$	1,266	1,224	1,514	1,114
Seed Separation—					
9	Threshing machine separators..... No.	—	—	—	—
	\$	—	—	—	—
10	Threshing machine separator parts..... \$	—	1,163	—	—
11	Combined harvester-threshers and parts No.	—	—	—	—
	\$	—	—	—	—
12	Traction engines, farm, \$1,400 or less..... No.	—	—	12	1
	\$	—	—	9,508	9,017
13	Other farm tractors, parts and repairs..... \$	37	372	65,614	24,244
	Totals, Farm Implements and Machinery ¹ \$	197,660	141,766	168,502	121,091
Hardware and Cutlery—					
14	Cutlery..... \$	694,000	741,932	675,529	566,500
Hardware—					
15	Needles and pins..... \$	176,199	205,807	217,158	198,229
16	Nuts and bolts..... cwt.	2,271	4,752	3,980	4,042
	\$	11,433	22,353	19,338	26,166
17	Screws..... \$	1,539	1,329	1,490	981
18	Locks..... \$	21,350	26,870	37,703	11,987
	Totals, Hardware and Cutlery ¹ \$	1,001,533	1,133,003	1,116,982	868,390
Machinery (except Agricultural)—					
19	Cleaners, vacuum..... No.	2	—	1	6
	\$	285	—	24	317
20	Sewing machines..... No.	6,165	11,980	8,335	5,960
	\$	134,493	209,489	134,435	113,553
21	Sewing machine parts and attachments... \$	155,017	249,397	280,503	99,676
22	Washing machines, domestic..... No.	1	1	7	1
	\$	57	384	8,628	35
23	Diamond drills and parts..... \$	68	12,449	29,657	7,435
24	Ore crushers, stamp mills, etc..... \$	252,928	193,015	338,597	258,227
25	Rock drills..... \$	20,871	12,703	88,612	73,560
26	Well drilling machinery and equipment... \$	416	2,280	23,191	8,524
27	Other mining and metallurgical machinery \$	112,685	109,324	146,318	181,015
Office or Business—					
28	Adding machines..... No.	4	3	—	5
	\$	237	104	—	405
29	Typewriters..... No.	18	19	195	541
	\$	1,387	1,171	11,302	33,818
30	Other office or business..... \$	3,662	4,873	417	423
Printing and Bookbinding—					
31	Printing presses..... \$	119,432	139,945	218,783	188,631
32	Typesetting machines..... \$	615	15,294	1,107	1,511
33	Other printing and bookbinding..... \$	64,799	53,582	51,291	143,361
34	Air compressors..... \$	57,659	114,849	149,071	81,069
35	Coke and gas machinery..... \$	68,214	291,146	254,564	70,262
36	Cranes and derricks..... \$	95,703	37,733	56,949	64,949
37	Ice-making and refrigerating machinery... \$	—	206	2,050	2,250
38	Lathes, power..... \$	14,638	68,526	76,429	55,440
39	Logging equipment..... \$	259,859	83,031	28,367	34,481
40	Metal-working machines, n.o.p..... \$	63,272	119,831	187,419	456,297
41	Paper- and pulp-mill machinery..... \$	1,101,423	343,642	39,892	14,863
42	Pumps, power, and parts..... \$	73,288	66,640	99,192	66,733
43	Rolling-mill machines..... \$	4,122	905	5,108	6,252
44	Shovels, steam and electric..... \$	8,028	46,510	6,808	7,357
45	Textile machinery..... \$	1,301,995	753,468	911,294	595,684
	Totals, Machinery (except Agricultural) ¹ \$	5,103,644	3,996,722	4,556,727	3,772,818

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
7,676	10,112	11,238	14,763	16,910	19,451	22,010	23,838	1
357,270	586,484	681,530	859,311	611,245	853,485	955,182	1,089,904	2
142,511	216,238	248,385	178,455	144,654	219,659	259,113	188,170	3
5,611	7,566	5,155	3,028	5,612	7,567	5,155	3,029	4
1,371,879	1,993,528	5,031,997	1,439,052	1,372,578	1,998,914	5,032,950	1,439,947	5
426,369	497,186	423,413	395,735	455,930	535,412	464,648	434,595	6
6,156	6,926	4,616	2,053	6,157	6,968	4,616	2,056	7
865,690	993,564	709,572	210,488	870,840	997,168	710,582	210,569	8
443,801	736,249	752,051	315,530	447,503	739,213	755,770	317,069	9
1,731,330	2,151,498	2,211,835	994,308	1,731,738	2,158,059	2,229,851	967,793	10
341,497	354,822	299,233	189,723	355,609	372,802	315,033	191,062	11
4,825	7,323	1,970	854	4,825	7,323	1,970	855	12
4,354,182	7,884,772	2,137,415	737,982	4,354,182	7,884,772	2,137,415	738,195	13
769,905	1,220,041	473,641	235,382	769,905	1,221,204	475,084	235,548	14
-	-	-	1,524	-	-	-	1,524	15
-	-	-	2,215,159	-	-	-	2,215,159	16
18,469	21,777	14,979	5,479	18,471	21,777	15,276	6,550	17
14,890,800	18,931,613	12,395,796	4,179,964	14,893,586	18,931,612	12,573,398	4,816,339	18
1,925,731	2,648,639	2,645,778	2,243,439	1,925,768	2,649,021	2,744,403	2,325,881	19
29,132,852	39,826,254	29,338,753	15,408,492	29,636,449	40,292,899	30,075,453	16,495,217	20
388,511	404,998	425,342	326,346	1,625,122	1,704,873	1,644,128	1,294,512	21
217,394	229,993	246,309	212,338	437,946	471,462	515,181	450,695	22
29,509	46,284	47,529	29,472	31,886	51,261	52,476	34,101	23
325,186	570,120	520,624	329,076	337,750	593,877	543,517	357,620	24
133,111	175,133	226,571	108,189	142,546	183,144	241,199	117,917	25
445,674	463,685	527,625	365,722	506,429	567,663	605,375	408,928	26
2,339,172	2,869,146	3,067,518	1,968,829	4,097,572	4,774,857	4,950,119	3,404,989	27
6,499	5,957	7,189	17,527	6,504	5,988	7,204	17,560	28
180,775	171,341	269,534	774,907	181,135	171,799	269,954	779,358	29
13,690	12,764	13,843	9,119	19,929	24,805	22,361	15,389	30
454,129	522,039	544,468	356,921	593,657	735,410	683,957	472,138	31
203,532	222,366	190,246	142,451	360,230	473,350	471,324	243,195	32
18,495	24,722	22,965	14,807	18,496	24,758	23,002	14,809	33
1,251,013	1,661,013	1,565,479	1,040,286	1,251,070	1,662,425	1,574,107	1,040,381	34
686,888	855,295	600,987	170,236	687,296	872,040	638,674	177,671	35
255,983	429,350	1,141,218	974,553	542,932	669,028	1,550,810	1,340,246	36
451,679	618,281	790,596	419,280	472,752	635,189	870,986	493,296	37
802,600	1,776,941	5,461,999	1,738,555	807,741	1,779,221	5,486,190	1,859,936	38
915,238	1,449,055	2,474,676	2,161,822	1,033,230	1,570,243	2,711,629	2,446,668	39
7,934	9,897	8,501	5,061	7,956	9,923	8,553	5,113	40
967,725	1,268,044	1,109,286	594,875	960,500	1,269,423	1,112,992	603,167	41
16,367	20,832	18,706	10,533	16,455	21,044	19,120	11,155	42
899,134	1,112,228	552,537	499,302	901,305	1,115,982	968,907	594,427	43
678,373	684,679	740,114	869,811	682,045	689,553	740,768	870,625	44
2,289,315	3,232,033	1,642,514	1,376,223	2,505,113	3,515,309	2,020,851	1,668,796	45
962,254	1,136,933	1,086,194	715,987	962,869	1,161,653	1,087,727	718,205	46
742,976	1,001,225	885,414	858,715	836,219	1,093,572	961,603	1,068,864	47
943,588	1,273,003	1,371,917	609,350	1,028,689	1,293,839	1,529,322	693,006	48
419,870	247,505	210,400	280,433	488,084	538,654	470,278	359,695	49
1,056,429	1,357,874	1,505,161	725,654	1,152,132	1,395,617	1,587,734	793,594	50
593,009	1,222,026	680,034	313,442	593,006	1,222,232	682,084	315,602	51
474,459	882,053	706,958	324,375	558,485	953,435	792,166	394,039	52
926,450	1,271,518	1,355,004	276,588	1,231,327	1,424,028	1,407,050	318,313	53
3,469,571	4,546,620	4,767,712	2,872,514	3,556,849	4,702,307	5,089,769	3,382,395	54
2,326,134	1,390,874	1,213,541	1,088,177	3,519,535	1,757,950	1,259,567	1,110,701	55
902,123	1,130,989	1,714,231	838,701	981,695	1,210,636	1,984,449	916,095	56
280,479	562,672	795,057	911,650	284,601	563,577	801,705	951,518	57
943,738	1,487,139	2,387,776	1,007,672	951,766	1,533,614	2,394,584	1,015,330	58
3,346,417	3,825,223	4,900,235	3,003,389	4,939,294	5,038,365	6,434,394	3,661,193	59
42,343,396	54,614,486	62,692,524	39,330,468	48,600,613	60,262,591	69,117,528	44,207,262	60

13.—Principal Imports into Canada for Consumption from United Kingdom.

		United Kingdom.			
No.	Item.	1928.	1929.	1930.	1931.
V. Iron and Its Products—concluded.					
1	Springs..... \$	2,063	491	603	4,250
Stamped and Coated Products—					
2	Tin cans..... \$	42,775	42,873	53,333	4,500
3	Other stamped and coated products..... \$	150,336	182,309	219,513	212,184
4	Tools and hand implements..... \$	272,656	312,845	324,657	244,508
Vehicles—					
5	Automobiles, freight..... No.	129	98	141	122
 \$	270,042	213,300	312,413	255,733
6	Automobiles, passenger..... No.	56	55	43	43
 \$	128,887	119,891	133,733	199,664
7	Automobile parts..... \$	92,297	41,055	52,754	74,652
8	Railway cars, all kinds..... No.	86	64	157	114
 \$	4,789	2,500	10,071	22,282
9	Railway cars, parts of..... \$	48,602	196,421	66,751	184,185
	Totals, Vehicles ¹ \$	698,232	778,258	871,671	967,803
10	Drums, tanks, cylinders..... \$	50,726	67,414	85,186	60,152
11	Furniture..... \$	33,789	26,017	35,809	22,722
12	Plates, for agricultural implements..... cwt.	—	—	—	—
 \$	—	—	—	—
13	Pumps, hand..... \$	1,188	735	1,472	330
14	Stoves..... \$	2,041	8,641	3,975	32,507
15	Valves..... \$	48,079	55,292	71,952	52,334
16	Articles for shipbuilding..... \$	194,846	193,330	312,532	144,077
	Totals, Iron and Its Products¹..... \$	17,725,749	18,997,316	21,639,945	18,217,736
VI. Non-Ferrous Metals.					
Aluminium—					
17	Bauxite (ore)..... cwt.	—	—	—	—
 \$	—	—	—	—
18	Cryolite..... cwt.	—	—	—	—
 \$	—	—	—	—
19	Aluminium ingots, bars, sheets..... lb.	887,578	844,990	1,134,520	2,000,103
 \$	246,183	675,435	291,766	450,677
	Totals, Aluminium ¹ \$	356,816	331,966	387,462	533,994
Brass—					
20	Scrap..... cwt.	487	224	103	9
 \$	6,476	3,182	521	6
21	Bars and rods..... cwt.	2,474	3,297	4,446	3,013
 \$	38,202	50,803	76,368	44,857
22	Strips, sheets, plates..... cwt.	521	1,126	1,884	1,041
 \$	10,831	22,360	43,260	19,401
23	Tubing..... lb.	494,555	652,255	1,065,255	727,051
 \$	114,731	140,539	257,790	150,991
24	Wire, plain..... lb.	29,473	37,322	64,627	36,521
 \$	8,838	11,332	19,826	8,321
	Totals, Brass ¹ \$	526,536	647,749	850,231	694,281
Copper—					
25	Blocks, pigs, ingots..... cwt.	—	—	—	—
 \$	—	—	—	—
26	Scrap..... cwt.	20	710	122	6
 \$	231	9,934	1,504	—
27	Bars and rods..... cwt.	628	52	367	22
 \$	6,887	922	7,944	4,151
28	Strips, sheets, plates..... cwt.	919	2,556	2,978	1,271
 \$	20,150	63,135	77,780	26,531
29	Tubing..... lb.	195,944	266,218	410,977	208,871
 \$	46,195	62,724	115,058	46,541
	Totals, Copper ¹ \$	150,582	298,241	489,248	179,641
30	Lead and its products..... \$	185,115	171,078	182,950	189,951
Nickel—					
31	Bars, rods, sheets, etc..... lb.	368	2,276	191	111,931
 \$	127	848	85	17,911
32	Nickel-plated ware..... \$	278,975	239,029	279,690	154,861
33	Other nickel..... \$	587,925	139,789	81,998	73,661

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31 -continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
185,956	275,503	300,259	149,500	188,140	276,479	300,993	154,099	1
593,805	474,134	580,830	452,920	639,469	520,454	638,461	457,890	2
1,197,337	1,573,306	1,513,367	1,590,898	1,439,547	1,896,148	1,882,359	1,970,915	3
1,864,810	2,427,399	2,412,356	1,528,208	2,551,118	3,194,980	3,192,449	2,078,213	4
4,078	7,319	4,936	2,883	4,208	7,417	5,078	2,987	5
4,917,317	8,577,629	6,089,769	3,656,587	5,187,889	8,795,929	6,403,794	3,913,361	6
35,723	42,386	33,777	16,990	35,783	42,447	33,834	17,068	7
29,099,989	34,041,286	27,911,295	13,115,908	29,234,603	34,173,547	28,060,872	13,358,529	8
33,104,133	55,467,166	35,536,938	19,399,181	33,237,181	55,761,414	35,746,929	19,597,213	9
1,023	1,010	1,107	874	1,158	1,118	1,368	1,006	10
507,987	871,882	881,578	345,095	515,170	877,147	899,177	367,988	11
926,178	1,406,110	1,502,665	1,112,418	975,050	1,602,729	1,569,316	1,296,603	12
69,640,997	101,891,031	73,846,161	39,146,757	70,395,597	102,946,783	74,938,096	40,313,897	13
968,227	1,185,313	1,491,886	877,410	1,202,878	1,461,321	1,745,030	1,104,177	14
856,116	1,220,324	1,495,153	952,909	913,208	1,259,964	1,558,941	991,858	15
61,607	24,040	8,347	9,000	61,607	24,040	8,347	9,000	16
302,650	103,763	40,301	44,879	302,650	103,763	40,301	44,879	17
370,614	547,582	573,161	147,558	348,264	572,861	594,502	152,776	18
717,704	862,433	759,434	1,618,275	726,902	878,487	771,914	1,658,076	19
707,208	854,583	1,354,057	866,245	759,461	920,762	1,432,828	923,959	20
1,075,206	1,163,299	2,198,161	910,472	1,350,043	1,479,127	2,657,184	1,134,544	21
233,991,420	317,089,125	284,164,438	168,362,980	259,575,020	346,615,810	316,878,627	194,888,433	22
-	2,292,091	2,194,464	2,167,172	-	3,374,249	2,684,164	2,173,892	23
-	3,617,806	2,961,621	3,323,990	-	3,797,416	3,068,581	3,325,955	24
9,379	10,783	2,755	1,385	9,769	68,181	47,602	46,296	25
48,826	76,269	23,114	10,699	52,005	297,712	191,490	190,799	26
391,690	694,941	1,272,209	1,070,632	1,306,005	1,552,588	2,415,301	3,071,272	27
145,437	224,918	335,759	282,699	399,127	470,512	629,842	733,486	28
7,521,267	5,451,905	5,220,867	5,196,573	8,190,535	6,370,036	6,058,864	6,135,570	29
28,539	50,350	24,874	12,961	29,929	53,347	25,765	13,599	30
275,005	599,172	339,518	127,996	288,408	625,027	344,905	133,305	31
3,689	6,018	4,604	3,465	6,163	9,245	9,050	6,478	32
72,258	121,948	106,382	73,813	110,460	170,967	182,750	118,667	33
7,153	14,441	9,508	7,077	7,674	15,637	11,392	8,119	34
142,079	281,177	226,701	132,658	152,910	305,321	269,961	152,058	35
2,167,109	3,162,369	2,822,957	2,773,540	2,676,531	3,845,790	3,915,697	3,516,084	36
488,015	744,808	718,437	529,221	605,912	892,573	981,844	684,265	37
356,782	395,043	424,774	504,921	387,993	435,365	489,967	544,786	38
88,270	99,891	124,775	108,738	97,465	111,223	144,817	117,999	39
4,263,603	5,699,042	5,712,015	3,765,108	5,153,663	6,755,538	7,000,455	4,768,722	40
31,916	93,156	110,350	69,751	31,916	93,156	110,350	69,751	41
442,653	1,474,620	2,059,869	805,247	442,653	1,474,620	2,059,869	805,247	42
44,391	72,422	24,214	16,854	44,935	73,341	25,357	17,197	43
562,813	1,080,000	421,454	179,806	567,377	1,092,120	435,298	183,445	44
283,426	443,089	469,312	307,246	284,896	444,141	470,189	307,470	45
4,005,579	7,023,390	8,821,880	3,935,938	4,024,828	7,040,012	8,838,477	3,940,097	46
16,686	28,789	16,859	18,320	17,698	31,450	19,886	19,883	47
340,591	604,890	445,586	374,186	362,520	670,010	524,400	406,135	48
1,836,740	2,320,837	2,081,463	1,823,558	2,045,121	2,610,568	2,501,680	2,035,672	49
436,767	565,582	563,973	389,965	486,265	633,464	681,285	437,113	50
7,062,232	12,715,820	14,365,059	6,867,135	7,249,634	13,067,992	14,898,632	7,070,753	51
118,959	132,693	136,279	130,014	378,815	403,644	393,145	373,810	52
693,319	766,755	1,472,948	758,730	693,687	769,031	1,473,139	870,669	53
202,157	296,408	378,695	298,178	202,284	297,256	378,780	316,088	54
1,750,567	2,269,322	2,362,577	1,350,123	2,308,586	2,858,227	3,022,935	1,778,039	55
315,321	523,439	673,582	415,152	913,805	668,410	769,482	490,055	56

13. Principal Imports into Canada for Consumption from United Kingdom.

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
VI. Non-Ferrous Metals—concluded.					
	Precious Metals—				
1	Electro-plated ware..... \$	790,665	960,333	1,078,823	749,371
2	Silver in bars, blocks, etc..... \$	10,292	34,899	18,798	26,006
3	Other precious metals..... \$	303,276	366,844	315,308	204,532
	Tin—				
4	Blocks, bars, pigs..... cwt.	15,462	22,843	11,907	8,222
	\$	948,157	1,112,963	538,193	238,631
5	Foil..... lb.	4,503	7,618	1,520	4,294
	\$	4,057	7,099	963	2,892
6	Other (collapsible tubes)..... \$	31,658	20,762	31,945	22,237
	Zinc—				
7	Spelter..... lb.	—	122,080	—	—
	\$	—	7,032	—	—
8	Sheets and plates..... lb.	140,720	69,461	373,847	69,117
	\$	21,823	4,980	20,194	3,905
9	Other zinc..... \$	933	2,371	2,175	26,533
10	Phosphor tin and bronze..... lb.	176,101	229,746	185,535	198,276
	\$	60,500	77,318	73,081	61,690
11	Clocks and watches..... \$	75,004	70,110	83,441	51,620
	Electric Apparatus—				
12	Batteries, storage..... No.	138	34	613	51
	\$	236,485	319,258	312,939	358,684
13	Electric heating and cooking apparatus.... \$	2,700	1,431	5,529	751
14	Dynamos, generators..... \$	389,820	294,116	534,031	336,897
	Incandescent Lamps—				
15	Carbon filament..... \$	227	322	731	217
16	Metal filament..... \$	1,489	3,304	2,377	1,594
17	Electric light fixtures..... \$	14,941	19,382	36,982	22,154
18	Meters..... \$	18,960	41,246	53,634	88,857
19	Motors..... \$	494,641	547,644	627,605	567,147
20	Spark plugs, etc..... \$	14,242	15,060	14,685	5,181
21	Switches, etc..... \$	86,117	63,764	328,379	154,906
22	Telegraph instruments..... \$	19,336	19,523	105,401	59,781
23	Telephone instruments..... \$	60,305	215,866	228,640	420,308
24	Transformers..... \$	20,085	17,511	111,385	386,418
25	Radio tubes..... \$	23,784	26,439	29,312	20,784
26	Wireless and radio apparatus, n.o.p..... \$	104,289	89,550	74,490	66,284
	Totals, Electric Apparatus, n.o.p. ¹ \$	1,740,302	1,927,193	2,727,203	2,768,802
27	Gas apparatus..... \$	6,258	5,818	5,964	5,931
	Printing Materials (except Machinery)—				
28	Stereotypes..... sq. in.	28,549	68,788	53,700	27,890
	\$	2,863	4,239	3,858	2,515
29	Other printing materials..... \$	17,101	14,891	12,333	8,418
30	Manganese oxide..... cwt.	—	31	18	31
	\$	—	105	64	80
31	Antimony, not ground..... lb.	40,660	75,373	15,680	6,726
	\$	5,390	8,600	1,768	589
32	Mercury..... lb.	4,615	33,670	103,685	2,157
	\$	6,554	50,132	142,789	2,722
33	Lamps, sidelights, etc..... \$	39,786	34,347	50,815	17,341
	Totals, Non-Ferrous Metals ¹ \$	6,334,885	6,653,832	7,504,415	6,165,273
VII. Non-Metallic Minerals.					
34	Asbestos, other than crude..... \$	121,028	130,447	140,114	118,759
	Clay and Clay Products—				
35	China clay..... cwt.	274,201	228,697	277,071	268,467
	\$	127,089	118,337	142,585	133,103
36	Fire clay..... cwt.	22,127	25,650	25,732	25,847
	\$	9,126	7,819	8,122	6,874
37	Bricks, building..... M	199	60	306	282
	\$	9,360	3,511	12,564	10,334
38	Bricks, fire..... \$	160,099	177,930	225,679	179,002
39	Brick and tile, n.o.p..... \$	308,259	403,132	478,319	347,978
40	Pottery and chinaware..... \$	2,863,582	2,748,025	3,084,255	2,742,532
41	Artificial teeth..... \$	1,715	2,465	389	412
42	Bathtubs, etc..... \$	384,254	461,368	461,227	354,128
	Totals, Clay and Clay Products ¹ \$	3,909,126	3,957,778	4,450,270	3,822,307

¹Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
202,404	238,506	245,501	158,181	1,070,266	1,276,130	1,399,482	943,405	1
882,697	994,601	822,038	524,605	893,380	1,029,524	851,923	550,878	2
334,096	376,030	400,854	228,257	719,459	820,437	772,402	486,089	3
28,915	24,961	40,480	39,707	48,742	58,928	56,318	49,727	4
1,763,156	1,307,892	1,767,359	1,161,730	2,986,784	2,987,502	2,488,074	1,458,362	5
106,003	90,231	98,094	44,732	116,135	97,849	100,104	49,331	6
69,763	49,139	49,868	20,509	77,511	56,238	51,008	23,540	7
42,574	22,941	28,389	35,915	74,340	43,703	60,334	58,648	8
1,206,750	1,959,286	2,820,678	1,048,013	41,217,950	2,104,802	2,929,405	1,048,013	9
75,815	116,605	170,600	45,425	76,664	125,011	176,987	45,425	10
3,331,352	4,423,329	4,574,503	2,923,359	5,550,836	9,975,498	11,430,802	4,612,252	11
297,134	365,655	379,780	237,857	472,578	731,195	820,409	323,611	12
314,835	205,023	194,590	187,555	317,280	210,345	201,048	318,155	13
417,595	463,715	501,822	331,689	682,331	788,266	812,826	794,143	14
157,697	191,530	223,435	121,506	249,631	303,054	342,476	260,872	15
1,218,964	1,333,282	1,225,146	819,287	3,303,798	3,576,029	3,495,659	2,551,866	16
28,592	29,462	20,486	12,374	28,735	29,499	21,257	12,527	17
290,496	312,274	296,226	254,874	527,031	631,557	609,509	615,815	18
237,977	380,505	515,941	469,069	251,307	384,065	525,104	471,852	19
924,153	1,248,639	1,805,282	682,001	1,328,628	1,557,009	2,486,956	1,263,378	20
13,740	5,914	106,029	28,824	97,495	56,211	168,261	88,358	21
59,065	69,819	45,447	20,635	222,677	134,063	71,536	35,750	22
772,449	1,040,948	1,085,413	949,607	813,979	1,102,905	1,181,572	1,012,336	23
327,412	365,072	335,421	261,880	346,515	408,173	391,364	354,664	24
2,307,988	3,599,225	3,889,867	2,128,875	2,964,123	4,306,317	4,657,349	2,742,463	25
732,433	1,081,650	1,147,858	442,777	747,697	1,108,818	1,175,379	458,330	26
1,329,562	1,536,082	2,448,794	1,318,914	1,420,474	1,613,250	2,783,507	1,533,265	27
186,733	473,382	481,577	322,563	206,612	493,061	586,978	382,344	28
812,413	1,633,358	2,794,470	2,123,521	873,032	1,854,548	3,023,433	2,544,619	29
236,511	447,460	647,524	389,948	275,261	482,677	817,290	780,439	30
182,670	220,366	551,007	216,145	209,922	246,853	580,376	236,929	31
3,383,928	5,601,920	9,869,151	7,737,067	3,491,087	5,692,263	9,975,649	7,845,188	32
16,761,915	24,410,750	34,177,488	23,413,446	19,044,465	26,775,215	37,611,263	26,804,362	33
211,930	249,837	275,565	196,395	227,767	263,405	285,358	209,561	34
6,795,114	5,909,885	6,089,206	5,588,762	6,826,874	5,985,608	6,144,266	5,618,652	35
259,162	332,763	367,386	323,791	262,402	337,953	371,435	326,738	36
87,848	113,093	101,517	89,189	110,645	133,188	116,355	100,612	37
35,097	26,147	31,238	20,757	1,400,062	2,130,491	1,981,548	1,973,139	38
88,702	55,968	79,705	49,896	1,456,142	1,053,780	998,217	853,942	39
1,017,663	1,595,545	1,288,538	1,202,132	1,074,003	1,850,511	1,509,246	1,308,576	40
110,901	141,790	102,561	75,228	117,742	165,271	120,654	82,631	41
40,041	130,621	120,261	52,127	99,056	202,296	379,372	59,190	42
57,317	171,400	168,299	77,313	136,675	274,148	523,352	88,821	43
947,124	1,463,156	1,360,712	488,675	1,088,973	1,644,898	1,573,409	593,592	44
47,845,775	62,104,988	73,738,731	48,452,677	60,190,036	75,438,431	87,950,252	59,623,263	45
531,783	784,119	804,287	727,020	671,407	929,897	952,650	856,880	46
179,216	194,825	240,255	185,515	453,437	423,963	518,270	454,267	47
117,388	128,518	163,803	138,162	244,485	247,391	306,987	271,550	48
928,597	1,344,879	1,492,286	1,043,620	951,444	1,371,621	1,519,581	1,070,717	49
209,288	280,825	317,774	200,247	219,074	289,555	326,994	208,230	50
8,002	12,678	15,129	13,097	8,201	14,792	15,435	13,378	51
155,346	245,394	274,769	299,505	164,706	257,121	287,333	309,839	52
1,701,424	1,799,807	2,420,831	1,526,678	1,869,110	1,978,074	2,654,934	1,708,942	53
281,470	380,585	536,924	400,528	708,537	940,264	1,223,871	919,021	54
344,755	424,394	480,904	295,820	4,930,329	4,886,062	5,492,602	4,399,784	55
400,184	429,439	482,699	389,623	402,074	431,938	483,089	390,259	56
103,088	121,613	192,104	191,477	487,373	583,195	654,091	546,853	57
3,831,016	4,478,579	5,578,767	4,024,077	9,662,412	10,417,260	12,256,769	9,432,135	58

13.—Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
VII. Non-Metallic Minerals—concluded.					
Coal and Coal Products—					
1	Coal, anthracite..... ton	780,321	552,974	786,530	918,252
	\$	6,192,720	3,686,131	4,906,974	5,658,951
2	Coal, bituminous..... ton	127,686	146,908	121,375	145,375
	\$	495,355	472,939	400,529	485,562
3	Coal for ships' stores..... ton	—	—	—	—
	\$	—	—	—	—
4	Coal tar, crude and pitch..... gal.	167,632	518	4,355	1,531
	\$	10,644	111	2,681	741
5	Carbolic oil..... gal.	164,755	262,536	500,078	13,059
	\$	38,890	52,167	85,202	6,308
6	Coke..... ton	12,911	29,354	11,162	16,447
	\$	107,371	158,957	63,297	65,806
	Totals, Coal and Coal Products ¹ \$	6,844,980	4,370,345	5,458,683	6,217,375
Glass and Glassware—					
7	Carboys, bottles, jars, milk bottles, etc... \$	102,832	100,110	131,104	77,854
8	Tableware..... \$	55,344	66,099	84,893	59,831
9	Incandescent lamp bulbs and tubing for... \$	—	—	53	—
10	Lamp chimneys, shades and globes..... \$	1,315	884	2,411	8,337
11	Window glass, common..... sq. ft.	2,739,311	2,197,366	2,285,616	1,830,095
	\$	94,230	83,864	86,472	89,953
Plate Glass—					
12	Not over 7 sq. ft..... sq. ft.	1,171,072	666,360	810,272	552,532
	\$	445,419	214,992	255,248	177,887
13	7 to 25 sq. ft..... sq. ft.	216,952	281,751	398,366	209,582
	\$	96,704	121,916	157,308	135,255
14	Other plate glass, not bevelled..... sq. ft.	489,685	598,542	569,739	347,674
	\$	229,294	252,793	223,760	152,221
	Totals, Glass and Glassware ¹ \$	1,331,305	1,226,413	1,375,117	988,124
15	Graphite and its products..... \$	51,883	49,605	42,118	38,625
Petroleum, Asphalt and Their Products—					
	Asphalt, solid..... cwt	27	121	499	—
	\$	348	398	443	—
Crude Petroleum—					
17	For refining..... gal.	—	—	—	—
	\$	—	—	—	—
18	Other, .8235 specific gravity and heavier gal	—	—	—	—
	\$	—	—	—	—
19	Fuel oil for ships' stores..... gal	—	—	—	—
	\$	—	—	—	—
20	Coal, and kerosene oil, refined..... gal.	—	—	208	155
	\$	—	—	60	24
21	Gasolene..... gal	1,840	—	—	—
	\$	513	—	—	—
22	Lubricating oils..... gal.	336,910	387,414	486,295	352,890
	\$	241,880	264,736	295,378	235,429
	Totals, Petroleum, Asphalt, etc. ¹ \$	328,566	303,690	314,529	263,580
Stone and Its Products—					
23	Abrasives..... \$	226,515	258,039	181,295	125,740
24	Building and paving stone..... \$	96,061	100,653	51,843	97,781
25	Cement..... cwt.	560	80	45,911	315,659
	\$	803	162	58,241	361,426
26	Silica sand..... cwt.	112	3	896	—
	\$	59	36	1,199	—
27	Whiting..... cwt.	181,068	180,724	190,343	140,425
	\$	100,974	99,006	106,564	77,402
	Totals, Stone and Its Products ¹ \$	521,766	605,723	566,491	727,312
28	Carbons, electric..... \$	1,000	507	938	699
29	Diamonds, unset..... \$	987,296	1,085,847	928,488	413,051
30	Insulators, electric..... \$	9,408	7,060	6,508	6,044
31	Salt..... cwt.	490,404	511,836	464,978	419,546
	\$	262,327	246,433	205,268	185,756
32	Sulphur..... cwt.	33	4	26	2
	\$	90	10	82	9
	Totals, Non-Metallic Minerals ¹ \$	14,467,621	12,100,661	13,691,753	12,902,472

¹ Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1925.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
3,378,232	3,312,093	3,235,032	2,731,862	4,168,526	3,882,418	4,136,399	3,946,987	1
25,555,154	24,753,718	23,991,078	20,145,856	31,826,453	28,529,122	29,582,590	27,725,452	2
12,663,415	13,077,619	13,764,563	12,854,544	12,791,273	13,224,564	13,886,010	12,999,942	3
25,899,251	25,430,255	25,888,784	23,296,206	26,395,455	25,903,628	26,290,339	23,782,073	4
537,252	658,960	461,338	346,579	537,252	658,960	461,338	346,579	5
1,086,486	1,177,524	877,042	655,159	1,086,486	1,177,524	877,042	655,159	6
4,260,070	25,975,737	6,414,894	4,376,073	4,427,702	5,976,575	6,419,329	4,384,105	7
320,484	441,165	507,537	299,140	331,128	441,383	510,243	301,401	8
659,566	1,152,221	1,400,053	957,888	1,347,007	1,915,528	2,485,061	1,917,044	9
135,712	213,402	254,635	179,847	284,472	361,373	441,126	316,999	10
785,969	1,133,635	1,156,363	985,002	816,323	1,171,663	1,171,355	1,001,445	11
4,593,538	6,448,037	6,319,199	5,179,692	4,810,446	6,647,955	6,403,354	5,245,498	12
57,671,470	58,539,199	57,916,923	49,843,127	64,815,285	63,136,083	64,183,342	58,117,809	13
1,167,103	1,241,419	1,367,572	1,149,194	1,444,259	1,524,950	1,719,438	1,379,610	14
572,769	636,706	678,459	613,851	901,029	1,048,596	1,114,983	1,019,453	15
454,847	514,685	547,367	501,727	535,663	560,261	596,970	506,735	16
306,180	400,872	436,140	356,898	359,783	465,136	521,273	419,077	17
67,155	142,309	607,452	185,105	43,984,102	44,315,528	53,189,468	35,032,296	18
8,824	17,617	43,928	20,468	1,163,911	1,168,734	1,649,494	1,118,965	19
1,135,887	1,152,611	1,314,225	1,475,860	3,672,517	5,337,647	4,344,865	2,575,535	20
384,118	414,614	488,116	485,545	1,187,593	1,469,900	1,319,727	817,286	21
177,689	209,427	154,564	250,039	676,878	1,013,248	1,050,429	728,051	22
71,701	83,917	65,706	96,521	262,157	360,294	391,176	301,131	23
256,511	254,474	177,936	177,831	1,078,085	1,452,506	1,570,203	840,232	24
108,614	103,732	75,082	68,845	462,104	565,950	629,433	363,530	25
4,069,675	4,861,164	5,081,152	4,392,617	8,129,616	9,717,519	10,453,706	7,875,293	26
71,238	87,803	109,597	65,057	123,121	137,443	151,715	103,745	27
968,841	983,874	1,069,157	808,045	974,502	983,995	1,071,856	823,654	28
861,640	838,627	822,478	601,548	865,573	839,025	824,271	611,464	29
470,552,886	613,877,907	839,762,765	667,240,169	709,959,837	865,335,849	1,110,169,704	994,384,918	30
18,872,741	24,890,441	35,962,583	25,169,919	30,796,263	35,365,847	43,332,001	36,220,413	31
6,496,565	49,721,798	51,546,604	49,410,723	75,914,345	54,845,275	67,736,736	61,896,977	32
2,516,094	1,989,461	1,890,595	1,724,881	3,234,704	2,204,975	2,535,096	2,240,276	33
30,108,245	28,276,261	26,983,829	25,310,182	44,074,770	33,096,277	31,163,811	33,799,370	34
1,059,565	860,068	707,243	644,998	1,728,699	984,524	824,526	875,743	35
3,985,408	3,751,810	4,831,014	4,906,761	3,987,460	3,752,170	4,833,637	4,906,916	36
335,346	338,887	428,823	342,394	335,945	338,971	429,377	342,418	37
112,232,211	152,619,597	169,619,047	144,511,998	112,250,169	152,658,272	169,626,215	156,805,645	38
11,545,444	18,034,215	18,867,547	14,790,485	11,549,807	18,038,367	18,869,236	16,190,778	39
12,228,343	15,892,207	16,833,040	15,855,003	12,566,986	17,283,060	16,323,178	16,213,717	40
3,463,372	4,518,282	5,175,690	4,622,583	3,708,791	4,785,355	5,474,108	4,860,168	41
39,850,535	52,876,140	65,257,177	49,126,873	53,529,319	64,053,306	78,768,061	62,659,658	42
3,050,185	4,346,197	3,876,280	2,101,184	3,328,884	4,646,551	4,126,629	2,258,104	43
357,907	498,695	672,621	460,812	539,234	713,129	875,095	679,316	44
70,792	116,803	153,497	130,466	73,652	121,209	246,085	447,075	25
87,533	144,497	174,918	143,380	90,613	149,436	247,709	505,112	26
2,318,826	2,611,351	3,982,743	2,510,946	2,917,356	3,267,476	4,702,068	3,103,913	27
266,258	307,896	411,714	263,690	329,706	371,776	481,143	328,191	28
81,924	107,908	107,960	80,883	306,761	345,220	357,951	245,566	29
58,535	72,274	69,582	50,850	181,795	198,989	207,394	139,683	30
5,378,067	7,306,630	7,402,916	5,021,792	6,395,610	8,537,893	8,702,988	6,356,004	31
766,567	439,503	468,860	404,877	771,927	450,235	493,523	436,733	32
17,926	60,150	19,259	44,016	3,067,838	3,182,289	3,193,871	1,797,225	33
283,268	416,584	417,678	465,621	310,368	432,145	453,595	501,525	34
2,153,011	2,161,623	1,583,691	1,992,215	3,500,272	3,741,721	3,415,651	2,526,003	35
649,918	686,981	496,286	305,079	1,067,104	1,106,728	897,925	658,446	36
3,591,684	3,571,653	4,729,088	3,497,699	3,593,658	3,572,163	4,729,965	3,498,462	37
2,902,866	2,637,814	3,822,267	3,101,146	2,907,539	2,938,804	3,823,245	3,102,740	38
117,447,997	135,154,049	149,293,985	118,984,418	153,049,438	166,964,231	186,496,388	153,578,658	39

13. Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
VIII. Chemicals and Allied Products.					
1	Acids.....	\$ 205,953	391,376	449,586	344,047
2	Cellulose products.....	\$ 86,141	91,852	77,648	58,766
3	Drugs and medicinal preparations.....	\$ 908,983	1,043,526	981,262	819,302
Dyeing and tanning materials—					
4	Coal tar and aniline dyes..... lb.	105,534	126,035	165,067	171,672
 \$	79,013	82,456	88,831	105,046
5	Logwood, oak bark, quebracho extracts .. lb.	428,516	223,789	237,676	257,189
 \$	23,016	13,089	9,916	8,779
	Totals, Dyeing and Tanning Materials ¹ \$	138,316	153,008	159,137	188,742
6	Explosives.....	\$ 61,772	58,877	59,803	47,666
Fertilizers, n.o.p.—					
7	Potash, muriate of..... cwt.	—	—	—	—
 \$	—	3	—	—
8	Soda nitrate..... cwt.	172	240	1,460	2,318
 \$	727	1,233	3,082	4,953
9	Superphosphates..... cwt.	21,560	100	112	—
 \$	9,712	80	50	—
	Totals, Fertilizers, n.o.p. ¹ \$	26,198	11,986	52,382	53,385
Paints, Pigments and Varnishes—					
10	Litharge..... cwt.	11,620	16,579	20,827	5,859
 \$	86,612	111,305	156,173	40,511
11	Lead, red..... lb.	963,070	927,859	1,067,560	586,275
 \$	60,956	63,997	80,046	45,654
12	Black, carbon..... lb.	—	3,250	2,768	14,644
 \$	—	83	48	698
13	Blacks, other..... lb.	563,819	387,942	350,890	25,017
 \$	22,965	16,242	16,357	1,234
14	Lithopone..... lb.	1,416,872	2,032,522	2,565,553	1,660,360
 \$	52,392	78,185	102,057	67,393
15	Oxide of cobalt, etc..... lb.	96,253	115,504	101,527	79,400
 \$	60,152	60,290	37,354	21,804
16	Oxides, fireproofs..... lb.	1,199,906	1,546,355	1,532,397	1,212,715
 \$	133,304	157,440	152,425	102,074
17	Zinc, white..... lb.	144,640	427,169	488,211	1,725,426
 \$	10,821	21,817	28,187	85,082
18	Liquid fillers, etc..... gal.	—	132,627	157,556	97,732
 \$	149,510	168,807	177,143	159,369
19	Varnish, lacquers, etc..... gal.	19,683	27,695	25,014	34,212
 \$	33,037	44,200	41,426	62,151
	Totals, Paints, etc. ¹ \$	771,371	895,101	933,754	718,692
Perfumery, Cosmetics—					
20	Perfumes, Alcoholic.....	\$ 36,584	32,032	43,420	19,912
	Totals, Perfumery, Cosmetics ¹ \$	285,750	262,840	301,350	262,220
Soaps—					
21	Castile..... lb.	7,524	6,203	3,166	5,049
 \$	1,126	637	415	432
22	Laundry, common..... lb.	86,841	162,950	276,854	62,265
 \$	7,658	14,400	24,864	5,577
	Totals, Soaps ¹ \$	148,156	164,520	164,273	139,669
Inorganic Chemicals, n.o.p.—					
23	Sulphate of alumina..... cwt.	9,176	17,332	38,042	34,153
 \$	10,397	19,113	31,471	30,879
24	Ammonia, nitrate of..... lb.	1,573,877	4,048,000	4,915,891	5,175,750
 \$	85,597	154,145	184,066	184,950
25	Sal ammoniac..... lb.	271,468	428,581	434,867	216,067
 \$	13,498	21,976	19,423	8,529
26	Copper sulphate..... lb.	884,694	1,388,227	839,436	3,696,615
 \$	43,121	70,432	45,854	164,132
27	Chlorine, liquid..... lb.	—	—	—	—
 \$	—	—	—	—
28	Chloride of lime..... lb.	1,487,763	2,502,953	2,940,670	2,383,118
 \$	25,629	39,598	45,228	34,569

¹Totals include other items not specified.

Kingdom, United States and All Countries, fiscal years 1928-31—continued.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
385,862	504,049	486,522	506,300	743,217	1,116,543	1,179,588	1,062,907	1
2,146,027	2,274,061	2,314,080	2,104,200	2,508,493	2,619,303	2,787,612	2,470,522	2
1,446,654	1,946,654	2,057,508	2,053,618	3,036,439	3,727,106	3,808,721	3,802,875	3
2,000,867	2,261,135	2,258,649	2,137,077	3,460,387	3,738,270	3,882,323	3,930,498	4
932,324	1,073,872	1,086,906	1,006,864	1,775,753	1,921,960	1,981,504	2,096,667	5
33,853,091	40,379,235	27,730,705	21,629,557	42,878,857	41,882,901	23,093,610	22,341,556	
1,288,140	1,565,157	1,027,066	743,011	1,717,014	1,616,590	1,044,277	774,775	
2,555,003	2,963,271	2,498,173	1,997,993	3,940,933	3,981,720	3,548,656	3,285,908	
460,285	445,948	445,319	355,625	586,668	557,025	562,111	434,422	6
131,150	147,285	115,007	150,093	379,529	400,977	393,656	652,504	7
214,004	291,482	215,047	303,488	670,023	706,002	709,843	1,186,274	
294,486	355,760	325,421	242,769	548,446	560,056	696,582	543,375	8
719,895	824,109	717,564	512,194	1,263,710	1,238,961	1,447,825	1,990,939	9
1,624,688	1,630,960	1,924,744	2,060,963	1,734,455	1,879,922	2,108,382	2,337,660	
888,875	1,041,557	1,141,876	1,093,925	945,032	1,168,295	1,232,098	1,223,048	
2,921,189	3,658,882	3,304,735	2,991,808	4,145,158	4,847,498	5,033,592	5,205,318	
12,721	21,946	26,187	34,814	30,556	44,584	51,129	41,743	10
103,387	166,169	208,070	225,624	234,227	314,445	393,513	273,136	11
169,021	294,889	421,165	820,670	1,869,477	1,451,678	1,811,982	1,480,080	
16,100	18,154	37,032	60,774	119,222	100,795	140,855	111,183	12
10,000,898	13,934,402	14,228,223	11,373,523	10,079,921	14,039,959	14,355,462	11,436,610	
659,857	935,933	921,295	488,660	667,094	944,973	932,529	494,623	13
1,334,158	1,213,133	869,361	893,394	1,997,831	1,759,994	1,334,659	947,985	
114,158	95,527	84,994	66,977	144,733	126,080	108,107	70,723	14
3,985,928	7,019,095	8,380,059	6,367,105	15,821,372	17,259,510	19,637,486	15,062,103	
203,813	343,498	400,157	301,544	646,231	760,802	863,381	667,500	15
129,077	152,545	177,006	165,697	228,342	272,899	281,049	245,785	
68,831	76,026	77,523	50,686	130,695	137,329	115,330	72,048	16
5,160,243	5,343,250	5,496,089	5,346,176	6,590,261	7,184,925	7,461,436	6,952,908	
463,199	566,118	614,443	515,473	624,690	750,154	800,843	653,725	17
12,901,334	14,370,937	14,153,008	8,625,534	17,068,221	18,965,557	17,787,070	13,899,949	
850,418	950,278	921,792	559,465	1,126,850	1,228,178	1,150,547	838,865	18
-	286,283	313,904	221,662	-	426,672	481,591	328,662	
361,969	411,984	417,930	330,870	528,387	595,479	615,345	507,426	19
89,632	120,859	105,122	86,511	109,821	149,307	130,789	121,249	
181,271	210,160	199,321	154,883	216,262	256,283	242,624	218,641	
3,327,713	4,135,617	4,218,451	3,000,924	5,015,186	5,854,804	5,957,078	4,368,048	
24,673	22,209	32,060	32,186	220,859	243,839	234,366	208,872	20
602,193	721,179	762,900	726,327	1,312,843	1,419,897	1,450,318	1,353,919	
98,353	42,671	20,141	30,154	1,215,658	1,145,803	1,300,531	1,192,383	21
14,234	5,314	2,928	3,819	101,312	90,248	97,616	85,548	
9,491,341	9,382,356	11,136,804	10,540,415	9,652,153	9,593,746	11,456,672	10,648,446	22
692,413	698,381	831,067	782,940	705,996	716,653	859,273	791,680	
893,155	865,807	1,005,861	957,897	1,178,108	1,162,051	1,316,418	1,243,680	
406,366	408,762	471,311	418,970	427,040	437,415	529,802	473,341	23
464,716	488,594	562,724	486,205	485,538	521,782	617,674	541,079	
229,644	1,818	82,886	111,423	5,416,287	4,049,818	4,998,777	5,320,674	24
10,305	294	5,580	5,846	240,986	154,439	189,646	191,978	
1,731,545	1,244,420	726,168	628,290	3,412,082	3,723,236	3,494,086	2,606,721	25
73,902	52,417	34,414	27,561	141,136	146,680	135,945	95,687	
2,101,107	1,607,267	1,443,432	3,017,702	5,516,671	4,479,846	4,390,200	7,887,451	26
106,539	87,390	85,210	127,624	270,104	231,792	239,012	340,507	
7,678,901	5,340,359	7,194,350	7,868,440	7,678,901	5,340,359	7,194,350	7,868,440	27
252,311	184,473	202,735	194,795	252,311	184,473	202,735	194,795	
11,958,440	9,507,411	1,869,063	1,415,844	14,823,999	12,792,632	5,450,840	4,220,377	28
197,005	149,727	35,975	32,510	238,721	198,969	87,569	71,598	

13.—Principal Imports into Canada for Consumption from United

No.	Item.	United Kingdom.			
		1928.	1929.	1930.	1931.
VIII. Chemicals and Allied Products—concl.					
Inorganic Chemicals, n.o.p.—concluded.					
1	Potash compounds..... lb.	553,415	485,508	597,321	353,442
	\$	70,860	67,500	67,667	60,309
2	Soda compounds..... lb.	42,488,403	22,631,703	39,785,464	17,483,925
	\$	726,966	554,519	667,520	505,273
3	Acid phosphate..... lb.	97,974	73,349	60,907	32,256
	\$	5,766	4,425	3,177	2,170
	Totals, Inorganic Chemicals, n.o.p. ¹ \$	1,125,891	1,148,682	1,339,993	1,245,331
4	Glycerine..... lb.	488,697	943,452	2,997,445	1,540,496
	\$	89,822	102,469	260,443	139,219
	Totals, Chemicals and Allied Products ¹ \$	4,422,349	4,963,687	5,428,765	4,601,166
IX. Miscellaneous Commodities.					
Amusement and Sporting Goods—					
5	Films, for motion pictures..... ft.	1,099,249	1,184,645	553,084	1,068,543
	\$	89,241	95,990	44,321	87,778
6	Toys and dolls..... \$	239,481	301,274	331,142	241,447
7	Other amusement and sporting goods..... \$	104,085	121,668	147,443	120,066
8	Brushes..... \$	162,266	185,725	237,188	158,978
9	Containers..... \$	1,645,947	2,150,539	2,689,481	1,663,835
Household and Personal Equipment—					
10	Boots and shoes, with canvas uppers..... pr.	6,436	1,236	1,971	4,207
	\$	4,781	1,652	1,855	2,216
11	Boots and shoes, with felt uppers..... pr.	338,255	421,188	279,109	183,570
	\$	199,492	241,206	155,856	99,756
12	Buttons..... \$	31,575	32,811	32,172	22,479
13	Combs..... \$	42,461	43,740	52,726	40,319
14	Jewellery..... \$	131,405	191,045	152,461	112,357
15	Pocketbooks, etc..... \$	373,915	465,400	454,003	308,238
16	Refrigerators..... No.	3	1	2	1
	\$	456	10	36	97
17	Tobacco-pipes..... \$	454,614	325,889	292,365	232,895
	Totals, Household, etc. ¹ \$	1,802,772	1,788,215	1,710,039	1,297,567
18	Mineral and aerated waters..... \$	11,075	12,882	14,141	15,058
Musical Instruments—					
19	Phonographs and parts..... \$	20,546	25,875	17,154	17,640
20	Other musical instruments..... \$	68,332	66,605	57,012	39,873
21	Scientific and educational equipment..... \$	269,400	339,232	365,341	357,679
22	Ships and materials for, n.o.p..... \$	994,637	42,804	259,452	203,548
23	Vehicles, n.o.p..... \$	290,961	669,562	751,224	315,208
24	Works of art, n.o.p..... \$	359,400	859,827	899,439	493,021
Miscellaneous Imports under Special Conditions—					
25	For army and navy..... \$	20,068	249,316	37,771	70,125
26	Re-imported..... \$	471,836	242,778	204,985	262,046
27	For exhibition..... \$	640,478	112,117	164,837	30,243
28	Ex-warehoused, for ships' stores ² \$	279,153	237,206	239,367	240,467
	Totals, Miscellaneous Imports under Special Conditions ¹ \$	1,715,151	1,041,826	833,253	1,201,569
29	Incubators and brooders..... No.	3	1	4	6
	\$	464	337	111	431
30	Pencils, lead..... \$	105,794	157,512	193,179	183,298
31	Precious stones..... \$	144,531	375,458	438,711	162,115
32	Settlers' effects..... \$	1,178,745	760,455	820,544	683,250
33	Waste paper, etc..... cwt.	53,225	16,655	14,933	25,310
	\$	160,035	22,001	26,116	19,256
34	Wax, vegetable and mineral, n.o.p..... lb.	1,596,190	708,041	148,684	336,454
	\$	78,530	32,888	9,164	12,536
	Totals, Miscellaneous Commodities ¹ \$	10,436,423	10,034,784	10,942,527	8,316,313
	Grand Totals, Imports for Consumption \$	186,435,824	194,041,381	189,179,738	149,497,392

¹ Totals include other items not specified.² Exclusive of coal and fuel oil.

Kingdom, United States and All Countries, fiscal years 1928-31—concluded.

United States.				All Countries.				No.
1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.	
2,030,519	1,273,480	1,063,291	850,626	5,666,641	4,882,191	6,029,521	4,808,202	1
223,091	183,876	128,974	95,469	539,897	498,657	539,165	419,866	
180,723,823	264,733,793	293,633,251	152,438,066	229,737,273	298,171,039	350,146,896	199,502,335	2
2,240,744	2,817,717	3,327,603	2,399,977	3,181,366	3,665,775	4,410,621	3,324,615	
2,980,327	3,078,243	2,945,615	2,343,994	3,080,101	3,151,582	3,006,522	2,376,250	3
226,361	234,217	217,029	167,353	232,306	238,642	220,206	169,523	
4,467,078	5,119,106	5,679,408	5,236,827	6,502,895	7,067,140	8,108,607	7,423,622	
194,774	829,118	289,474	103,520	1,703,611	5,999,890	8,335,339	8,469,197	4
36,421	94,751	37,714	12,491	330,020	622,515	717,280	690,066	
22,246,232	26,202,978	26,982,460	23,201,992	33,572,113	37,723,046	39,907,503	35,650,772	
10,211,245	9,413,846	19,303,529	15,046,579	11,359,245	10,630,282	19,887,857	16,572,390	5
817,556	769,402	1,558,117	1,232,028	912,150	868,163	1,604,898	1,356,224	
838,159	1,095,592	1,077,504	830,634	2,118,497	2,606,890	2,691,408	1,981,455	6
1,538,940	640,309	1,412,761	877,894	1,679,492	889,905	1,634,982	1,066,776	7
248,076	286,890	327,546	194,659	631,714	686,056	849,226	556,176	8
1,380,182	2,045,029	2,223,764	990,145	4,088,123	5,479,789	6,285,755	3,826,939	9
62,586	106,826	56,755	12,005	69,703	108,066	58,930	18,573	10
44,052	64,546	39,577	12,936	49,393	66,199	41,659	16,255	
39,448	86,882	75,204	46,449	382,570	531,970	374,187	243,341	11
23,162	52,147	45,880	27,255	224,780	311,961	219,513	132,923	
239,263	245,188	192,514	155,562	537,756	531,755	514,537	417,318	12
41,480	32,346	30,050	25,537	249,768	245,421	258,391	211,423	13
1,145,236	1,407,889	1,336,677	893,514	1,857,592	2,605,322	2,435,869	1,657,303	14
360,855	457,189	451,632	314,312	1,058,206	1,288,276	1,343,761	961,048	15
5,220	10,855	18,892	17,306	5,223	10,857	18,894	17,307	16
672,416	1,319,011	1,913,555	2,377,573	672,872	1,319,180	1,913,591	2,377,670	
36,849	33,313	25,871	22,732	963,517	714,760	627,678	627,577	17
4,436,998	5,348,381	5,942,725	5,322,240	8,542,539	9,672,145	10,231,074	8,666,852	
73,013	74,956	79,479	67,749	212,753	223,845	241,719	193,063	18
926,807	1,250,085	1,541,385	727,165	978,616	1,327,915	1,597,821	758,623	19
970,360	1,022,843	1,093,393	601,703	1,398,960	1,458,312	1,533,052	864,414	20
3,465,771	3,638,284	3,992,265	3,240,884	4,147,272	4,458,096	4,956,519	4,079,851	21
835,883	847,770	1,044,833	542,792	1,854,915	1,056,163	1,372,046	827,842	22
1,417,976	2,642,720	2,396,566	1,297,370	1,717,477	3,344,764	3,249,798	1,665,625	23
557,203	1,139,656	561,735	1,018,471	1,177,808	2,384,998	1,909,505	1,764,240	24
1,121	5,657	1,024	171	27,900	273,869	47,172	73,676	25
3,002,010	2,581,163	2,539,217	2,824,340	3,772,002	3,213,565	2,925,907	4,140,698	26
2,097,876	3,130,350	3,201,979	4,656,760	2,827,730	3,295,342	3,487,016	4,697,115	27
197,304	172,561	211,224	196,985	542,236	490,917	519,630	482,592	28
6,862,180	9,060,691	10,510,354	9,775,719	9,580,637	11,295,210	12,011,104	12,879,847	
29,569	24,253	23,658	10,170	29,572	24,255	23,662	10,176	29
518,097	450,584	498,398	216,274	519,348	451,037	498,509	216,818	
515,731	561,198	504,778	422,827	813,838	933,552	938,806	836,142	30
80,234	85,953	61,801	64,894	521,303	837,477	810,466	443,855	31
7,736,887	9,343,313	10,113,018	10,568,690	9,192,370	10,390,922	11,181,203	11,489,320	32
858,126	724,644	1,028,727	817,213	916,653	754,889	1,049,075	857,720	33
996,546	773,638	559,069	364,061	1,192,546	804,925	600,767	407,328	
731,258	699,462	802,050	927,086	2,681,138	2,921,307	2,951,130	2,820,178	34
149,215	140,027	133,172	122,671	246,294	255,137	253,050	205,959	
41,150,207	48,685,281	53,388,324	45,288,688	59,848,892	68,491,584	73,945,833	62,488,025	
718,896,270	868,012,229	847,442,037	584,407,018	1,108,956,466	1,265,679,091	1,248,273,582	906,612,695	

11.—Imports (Dutiable and Free) and Exports of Canadian and Foreign Produce, by Main Classes, during the fiscal years ended Mar. 31, 1927-31.

Class.	1927.	1928.	1929.	1930.	1931.
IMPORTS.	\$	\$	\$	\$	\$
Agricultural and Vegetable Products (except chemicals, fibres and wood).					
Dutiable.....	133,362,597	153,762,736	153,519,512	152,962,368	111,519,698
Free.....	79,735,524	84,422,824	79,610,732	74,086,449	66,109,080
Totals for Group....	213,098,121	238,185,560	233,130,244	227,048,817	177,628,778
Animals and Animal Products (except chemicals and fibres).					
Dutiable.....	26,091,583	30,002,698	36,074,696	44,479,161	28,062,640
Free.....	27,122,552	35,787,323	35,587,058	25,374,672	17,933,065
Totals for Group....	53,214,135	65,790,021	71,661,754	69,853,833	45,995,705
Fibres, Textiles and Textile Products.					
Dutiable.....	127,110,568	127,163,911	130,364,826	121,103,721	87,763,168
Free.....	56,473,363	59,830,551	76,074,347	64,137,531	42,953,854
Totals for Group....	183,583,931	186,994,462	206,439,173	185,241,252	130,717,022
Wood, Wood Products and Paper.					
Dutiable.....	29,387,075	31,819,999	37,321,028	39,108,066	30,215,278
Free.....	18,575,223	19,930,925	21,893,790	21,843,011	15,826,751
Totals for Group....	47,962,298	51,750,924	59,214,818	60,951,077	46,042,029
Iron and Its Products.					
Dutiable.....	196,131,342	215,663,412	288,173,682	263,645,126	160,832,762
Free.....	33,298,143	43,911,608	58,442,128	53,233,501	34,055,681
Totals for Group....	229,429,485	259,575,020	346,615,810	316,878,627	194,888,443
Non-Ferrous Metals and Their Products.					
Dutiable.....	36,795,977	39,401,249	53,174,136	66,238,269	45,854,667
Free.....	15,951,865	20,788,787	22,264,295	21,711,983	13,768,596
Totals for Group....	52,747,842	60,190,036	75,438,431	87,950,252	59,623,263
Non-Metallic Minerals and Their Products (except chemicals).					
Dutiable.....	61,589,364	60,219,594	64,022,829	69,259,471	59,901,380
Free.....	95,195,343	92,829,844	102,941,402	117,236,917	93,677,278
Totals for Group....	156,784,707	153,049,438	166,964,231	186,496,388	153,578,658
Chemicals and Allied Products.					
Dutiable.....	17,425,263	17,842,190	19,271,781	20,555,008	18,641,318
Free.....	14,419,452	15,729,923	18,451,265	19,352,495	17,009,454
Totals for Group....	31,844,715	33,572,113	37,723,046	39,907,503	35,650,772
Miscellaneous Commodities.					
Dutiable.....	32,003,244	34,174,439	39,152,940	41,879,284	31,299,319
Free.....	30,224,027	25,674,463	29,338,644	32,066,549	31,188,706
Totals for Group....	62,227,271	59,848,892	68,491,584	73,945,833	62,488,025
Total Imports.					
Dutiable.....	659,897,013	710,050,228	821,075,430	819,230,474	574,090,230
Free.....	370,995,492	398,906,238	444,603,661	429,043,108	332,522,465
Totals, Imports.....	1,030,892,505	1,108,956,466	1,265,679,091	1,248,273,582	906,612,695
Duty Collected.....	158,966,367	171,872,867	200,479,505	199,011,628	149,250,992

14.—Imports (Dutiable and Free) and Exports of Canadian and Foreign Produce, by Main Classes, during the fiscal years ended Mar. 31, 1927-31—concluded.

Class.	1927.	1928.	1929.	1930.	1931.
EXPORTS.	\$	\$	\$	\$	\$
Agricultural and Vegetable Products (except chemicals, fibres and wood).					
Canadian produce.....	574,994,162	555,110,598	646,514,058	384,635,751	292,280,037
Foreign produce.....	4,347,294	8,837,492	10,453,444	8,061,858	2,540,500
Totals for Group.....	579,341,456	563,948,090	656,967,502	392,697,609	294,820,537
Animal and Animal Products (except chemicals and fibres).					
Canadian produce.....	167,291,589	165,845,096	158,757,272	133,009,145	83,714,772
Foreign produce.....	1,354,666	1,915,046	1,736,561	1,367,215	1,041,519
Totals for Group....	168,646,255	167,760,142	160,493,833	134,376,360	84,756,291
Fibres, Textiles and Textile Products.					
Canadian produce.....	7,665,563	10,904,073	9,678,019	9,066,226	6,504,182
Foreign produce.....	1,375,778	1,808,756	1,755,418	1,481,775	1,397,693
Totals for Group....	9,041,341	12,712,829	11,433,437	10,548,001	7,901,875
Wood, Wood Products and Paper.					
Canadian produce.....	284,120,267	284,543,396	288,621,745	289,566,675	230,604,474
Foreign produce.....	414,301	44,119	335,898	401,708	502,618
Totals for Group.....	284,534,568	284,987,515	288,957,643	289,968,383	231,107,092
Iron and Its Products.					
Canadian produce.....	74,284,824	62,753,934	82,256,717	78,589,580	38,937,661
Foreign produce.....	2,629,176	3,301,107	4,277,189	4,790,770	3,713,065
Totals for Group....	76,914,000	66,055,041	86,533,906	83,380,350	42,650,726
Non-Ferrous Metals and Their Products.					
Canadian produce.....	80,639,197	90,840,441	112,778,194	154,319,429	95,652,063
Foreign produce.....	688,835	696,055	773,267	1,178,770	1,346,992
Totals for Group.....	81,328,032	91,536,496	113,551,461	155,498,199	96,999,055
Non-Metallic Minerals and Their Products (except chemicals).					
Canadian produce.....	28,880,831	25,949,930	27,401,790	28,545,096	21,107,780
Foreign produce.....	1,020,677	891,287	1,377,751	1,288,495	950,695
Totals for Group.....	29,901,508	26,841,217	28,779,541	29,833,591	22,058,475
Chemicals and Allied Products.					
Canadian produce.....	16,203,760	17,365,516	19,438,064	22,468,462	12,825,852
Foreign produce.....	709,953	422,818	384,805	563,645	582,491
Totals for Group.....	16,913,713	17,788,334	19,822,869	23,032,107	13,408,343
Miscellaneous Commodities.					
Canadian produce.....	18,077,313	15,036,358	18,263,813	20,057,938	18,115,846
Foreign produce.....	2,874,556	3,932,011	4,092,070	5,545,532	5,209,808
Totals for Group....	20,952,269	18,968,370	22,355,883	25,603,470	23,325,654
Total Exports.					
Canadian produce.....	1,252,157,506	1,228,349,343	1,363,709,672	1,120,258,302	799,742,667
Foreign produce.....	15,415,636	22,248,691	25,186,403	24,679,768	17,285,381
Totals, Exports.....	1,267,573,142	1,150,598,034	1,388,896,075	1,144,938,070	817,028,048
Total Trade.					
Imports, merchandise.....	1,030,892,505	1,108,956,466	1,265,679,091	1,248,273,582	906,612,695
Exports, merchandise.....	1,267,573,142	1,250,598,034	1,388,896,075	1,144,938,070	817,028,048
Totals, External Trade	2,298,465,647	2,359,554,500	2,654,575,166	2,393,211,652	1,723,640,743

**15.—External Trade of Canada, by Main Groups and Degree of Manufacture,
According to Origin, fiscal year ended Mar. 31, 1931.**

Origin.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	\$	\$	\$	\$	\$	\$
Farm Origin—						
1.—Canadian Farm Products—						
Field Crops—						
Raw materials.....	558,897	22,628,963	33,470,108	116,422,583	18,863,662	203,736,420
Partly manufactured.....	22,445	487,765	633,650	929	205,119	292,246
Fully or chiefly manufactured.....	30,055,286	7,462,062	42,683,515	19,517,072	8,095,447	65,927,069
Totals, Canadian Field Crops	30,636,628	30,578,790	76,787,273	135,940,584	27,164,228	269,955,735
Animal Husbandry—						
Raw materials.....	1,859,457	6,385,031	11,330,761	1,246,936	9,871,350	13,059,537
Partly manufactured.....	3,064,963	5,009,582	10,764,398	1,062,592	3,080,991	4,494,544
Fully or chiefly manufactured.....	23,715,556	8,736,864	47,158,197	15,624,549	2,266,047	21,977,707
Totals, Canadian Animal Husbandry.....	28,639,976	20,131,477	69,253,356	17,934,077	15,218,388	39,531,788
All Canadian Farm Products—						
Raw materials.....	2,418,354	29,013,994	44,800,869	117,669,519	28,735,012	216,795,957
Partly manufactured.....	3,087,408	5,497,347	11,398,048	1,063,521	3,286,110	4,786,790
Fully or chiefly manufactured.....	53,770,842	16,198,926	89,841,712	35,141,621	10,361,494	87,904,776
Totals, Canadian Farm Products.....	59,276,604	50,710,267	146,040,629	153,874,661	42,382,616	309,487,523
2.—Foreign Farm Products—						
Field Crops—						
Raw materials.....	1,452,077	37,001,066	49,137,640	—	79	3,793
Partly manufactured.....	436,791	6,898,265	30,766,322	206	114,627	120,421
Fully or chiefly manufactured.....	25,132,737	23,108,565	76,249,853	5,711,975	1,273,234	24,569,278
Totals, Foreign Field Crops.	27,021,605	67,007,896	156,153,815	5,712,181	1,387,940	24,693,492
Animal Husbandry—						
Raw materials.....	366,851	5,177,269	7,630,811	—	—	—
Partly manufactured.....	17,008	52,860	114,632	—	—	—
Fully or chiefly manufactured.....	779,283	4,807,018	12,159,651	1,121	7,442	96,416
Totals, Foreign Animal Husbandry.....	1,163,142	10,037,147	19,905,094	1,121	7,442	96,416
All Foreign Farm Products—						
Raw materials.....	1,818,928	42,178,335	56,768,451	—	79	3,793
Partly manufactured.....	453,799	6,951,125	30,880,954	206	114,627	120,421
Fully or chiefly manufactured.....	25,912,020	27,915,583	88,409,504	5,713,096	1,280,676	24,665,694
Totals, Foreign Farm Products.....	28,184,747	77,045,043	176,058,909	5,713,302	1,395,382	24,789,908
3.—All Farm Products—						
All Field Crops—						
Raw materials.....	2,010,974	59,630,029	82,607,748	116,422,583	18,863,741	203,740,213
Partly manufactured.....	459,236	7,386,030	31,399,972	1,135	319,746	412,667
Fully or chiefly manufactured.....	55,188,023	30,570,627	118,933,368	25,229,047	9,368,681	90,496,347
Totals, All Field Crops.....	57,658,233	97,586,686	232,941,088	141,652,765	28,552,168	294,649,227

¹In this classification the expression "Canadian Farm Products" refers, in the case of exports, to commodities actually produced, in their original state, on Canadian farms. In the case of imports it covers all commodities of which the basic raw materials are such as Canadian farms produce. "Foreign Farm Products" covers, in both imports and exports, materials or commodities such as Canada does not produce in their original forms, e.g., cane sugar, tea, rubber, cotton, silk, etc.

15.—External Trade of Canada, by Main Groups and Degree of Manufacture, According to Origin, fiscal year ended Mar. 31, 1931—concluded.

Origin.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	\$	\$	\$	\$	\$	\$
Farm Origin—concluded.						
3.—All Farm Prod'ts—concl.						
All Animal Husbandry—						
Raw materials.....	2,226,308	11,562,300	18,961,572	1,246,936	9,871,350	13,059,537
Partly manufactured.....	3,081,971	5,062,442	10,879,030	1,062,592	3,080,991	4,494,544
Fully or chiefly manufactured.....	24,494,839	13,543,882	59,317,848	15,625,670	2,273,489	22,074,123
Totals, All Animal Husbandry.....	29,803,118	30,168,624	89,158,450	17,935,198	15,225,830	39,628,204
All Farm Products—						
Raw materials.....	4,237,282	71,192,329	101,569,320	117,669,519	28,735,091	216,799,750
Partly manufactured.....	3,541,207	12,448,472	42,279,002	1,063,727	3,400,737	4,907,211
Fully or chiefly manufactured.....	79,682,862	44,114,509	178,251,216	40,854,717	11,642,170	112,570,470
Totals, Farm Origin.....	87,461,351	127,755,310	322,099,538	159,587,963	43,777,998	334,277,431
Wild Life Origin—						
Raw materials.....	261,220	4,599,281	5,306,592	8,141,299	5,606,713	15,257,878
Partly manufactured.....	62,259	1,619,660	2,147,858	17,832	32,104	78,753
Fully or chiefly manufactured.....	96,499	204,128	341,005	12,961	52,652	78,232
Totals, Wild Life Origin.....	419,978	6,423,069	7,795,455	8,172,092	5,691,469	15,414,563
Marine Origin—						
Raw materials.....	12,245	679,818	1,080,768	664,069	10,081,939	11,426,894
Partly manufactured.....	—	—	—	—	—	—
Fully or chiefly manufactured.....	229,111	515,204	2,258,962	4,517,300	3,581,990	18,320,940
Totals, Marine Origin.....	241,356	1,195,022	3,339,730	5,181,369	13,663,929	29,747,834
Forest Origin—						
Raw materials.....	2,642	1,955,860	2,181,052	193,642	10,169,088	11,288,847
Partly manufactured.....	30,642	8,510,640	8,692,063	7,992,818	60,414,840	78,963,382
Fully or chiefly manufactured.....	4,524,941	29,827,899	37,420,988	9,247,238	118,371,045	140,476,736
Totals, Forest Origin.....	4,558,225	40,294,399	48,294,103	17,433,698	188,954,473	230,728,965
Mineral Origin—						
Raw materials.....	6,372,536	83,763,688	106,369,351	6,678,994	37,067,643	50,407,548
Partly manufactured.....	912,575	11,568,702	13,594,171	10,167,613	33,244,837	57,900,733
Fully or chiefly manufactured.....	32,007,738	251,761,967	306,124,843	7,128,529	13,940,015	57,059,947
Totals, Mineral Origin.....	39,292,849	347,094,357	426,088,365	23,975,136	84,252,495	165,368,228
Mixed Origin—						
Raw materials.....	—	—	—	—	—	—
Partly manufactured.....	212,696	1,377,824	1,945,078	143,714	403,456	602,841
Fully or chiefly manufactured.....	17,310,937	60,267,037	97,050,426	4,752,527	12,916,743	23,602,505
Totals, Mixed Origin.....	17,523,633	61,644,861	98,995,504	4,896,241	13,320,199	24,205,346
Recapitulation—						
Raw materials.....	10,885,925	162,190,976	216,507,083	133,347,523	91,660,474	305,180,917
Partly manufactured.....	4,759,379	35,525,298	68,658,172	19,385,704	97,495,474	142,452,920
Fully or chiefly manufactured.....	133,852,088	386,690,744	621,447,440	66,513,272	160,504,615	352,108,830
Grand Totals.....	149,497,392	584,407,018	906,612,695	219,246,499	349,660,563	799,742,667

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification According to Purpose, fiscal year ended Mar. 31, 1931.

Group.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	\$	\$	\$	\$	\$	\$
Foods, Beverages and Smokers' Supplies.						
Foods.....	4,481,753	47,273,297	107,724,015	153,695,676	34,387,180	293,812,425
Animals for food.....	170	58,601	58,771	626,219	697,074	1,601,811
Breadstuffs.....	379,851	5,567,800	12,014,682	124,739,016	8,462,403	217,927,771
Grains.....	64,037	4,140,469	10,172,961	107,522,943	8,293,152	179,704,815
Flour and other milled products.....	30,203	712,251	759,652	14,767,759	12,466	35,444,324
Flour and meal.....	23,361	708,741	749,300	14,767,759	12,466	35,444,324
Other milled products.....	6,842	3,510	10,352	—	—	—
Bakery products and prepared foods.....	285,611	715,080	1,082,069	2,448,314	156,785	2,778,632
Other farinaceous substances.....	139,883	326,288	646,227	—	—	—
Cocoa and chocolate.....	188,788	297,261	2,484,449	—	—	—
Fish.....	228,802	855,387	2,635,559	5,049,918	12,360,926	27,841,446
Fresh or frozen.....	2,245	515,898	775,356	642,831	9,436,690	10,292,840
Dried, salted, smoked or pickled.....	121,493	72,733	728,161	16,220	1,883,153	7,427,499
Canned or otherwise preserved.....	105,064	266,756	1,132,042	4,390,867	1,041,083	10,121,107
Fruits.....	917,987	21,813,123	29,090,573	5,366,294	892,733	8,222,168
Fresh.....	398,765	17,872,315	21,021,129	5,157,855	863,373	7,780,873
Dried.....	359,821	2,591,559	4,780,108	14,276	91	185,704
Canned or otherwise preserved.....	159,401	1,349,249	3,289,336	194,163	29,269	255,591
Meats.....	325,151	4,104,059	5,584,055	3,211,075	1,678,486	6,104,976
Lard, lard compound and substitutes.....	1,821	212,678	234,234	26	1,102	84,227
Milk and its products.....	99,597	156,156	5,324,933	12,495,628	3,237,858	18,772,264
Milk and cream, fresh.....	—	15,794	16,004	—	2,408,663	2,408,663
Milk preparations and products.....	99,597	140,362	5,308,929	12,495,628	829,195	16,363,601
Nuts.....	153,683	923,111	3,998,119	9,034	8,035	17,985
Oils.....	264,150	2,604,288	5,123,045	—	—	—
Salt.....	185,756	305,079	658,446	—	9,853	74,160
Spices.....	455,056	194,861	1,150,692	—	—	—
Sugar and sugar products.....	584,162	1,001,567	25,151,230	94,380	1,711,914	3,188,138
Vegetables.....	267,069	7,248,456	8,934,781	1,846,272	4,896,832	8,695,725
Vinegar.....	9,129	80,660	94,952	—	18,419	18,982
Yeast.....	2,735	363,884	368,720	—	—	—
Other articles of food.....	277,963	1,160,038	4,170,547	257,814	411,545	1,262,772
Beverages and infusions.....	36,012,102	1,030,529	54,099,999	205,980	3,150,322	19,495,022
Beverages, alcoholic.....	29,515,421	2,753	35,434,637	48,540	3,141,486	19,286,044
Beverages, non-alcoholic.....	37,051	418,513	601,039	157,416	2,063	187,338
Lime and other fruit juices.....	21,993	353,764	407,976	157,362	114	180,973
Mineral waters.....	15,058	64,749	193,063	54	1,949	6,365
Infusions.....	6,459,630	609,263	18,064,323	24	6,773	21,640
Cocoa and chocolate.....	23,135	83,100	157,062	—	—	—
Coffee and chicory.....	545,853	509,751	4,858,384	24	6,773	21,640
Tea.....	5,890,642	16,412	13,048,877	—	—	—
Smokers' supplies.....	1,070,508	302,480	2,285,022	363	7,499	62,671
Tobacco, manufactured.....	620,883	244,214	974,798	363	7,499	62,671
Other smokers' supplies.....	449,425	58,266	1,310,224	—	—	—
Personal and Household Utilities.						
Books, printed matter, stationery and educational supplies.....	3,459,339	15,245,698	20,187,179	746,705	927,139	2,190,955
Books, pamphlets, printed matter and maps.....	2,102,718	11,218,292	13,912,325	176,781	723,120	1,150,203
Books.....	1,753,787	4,018,869	6,268,649	23,880	119,404	166,834
Charts and maps.....	16,637	37,487	54,889	—	—	—
Newspapers.....	40,402	4,171,958	4,220,855	152,901	603,716	1,023,369
Printed matter, n.o.p.....	291,892	2,989,978	3,367,932	—	—	—
Stationery.....	513,481	1,037,615	1,892,600	540,011	78,651	824,917
Educational equipment (except text books).....	167,491	787,341	1,062,837	7,144	25,318	40,258
Works of art.....	675,649	2,202,450	3,319,417	22,769	100,050	135,577

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification According to Purpose, fiscal year ended Mar. 31, 1931—continued.

Group.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	\$	\$	\$	\$	\$	\$
Personal and Household Utilities—concluded.						
Clothing.....	8,232,840	7,595,388	21,901,519	2,987,059	247,280	8,536,869
Blouses and shirtwaists....	782	23,856	31,396	—	—	—
Boots and shoes (excluding materials).....	893,826	1,923,133	3,067,487	2,846,118	118,902	6,378,475
Gloves and mitts.....	484,789	128,838	2,579,100	56,196	3,023	218,522
Handkerchiefs.....	1,081,056	43,733	1,680,881	—	—	—
Hats and caps (excluding materials).....	523,565	739,023	2,043,349	310	2,971	71,578
Hosiery.....	1,984,118	612,074	3,140,682	15,597	668	866,591
Shirts.....	27,799	58,445	91,580	—	—	—
Underwear.....	331,340	63,997	480,984	29,876	495	171,707
Miscellaneous clothing.....	2,905,565	4,002,289	8,786,060	38,962	121,221	829,996
Household utilities.....	9,064,141	15,727,146	29,422,089	2,367,620	253,332	6,129,725
Bedding.....	1,175,218	260,282	1,594,556	498	907	45,474
Cutlery.....	330,851	139,926	595,457	—	—	—
Floor coverings.....	1,084,243	359,451	2,505,358	2,084	10,868	185,075
Wool carpets.....	712,810	106,073	1,765,940	2,046	10,853	99,405
Other floor coverings.....	371,433	253,378	739,418	38	15	85,670
Furniture.....	352,878	2,848,937	3,517,997	63,782	32,989	437,860
Glassware, chinaware and pottery.....	2,800,602	909,339	5,416,825	2,164	19,267	29,949
Glassware.....	59,831	613,891	1,019,453	—	—	—
Chinaware and pottery..	2,740,771	295,448	4,397,372	2,164	19,267	29,949
Household linen.....	1,036,043	161,448	1,291,234	—	—	—
Household machinery.....	213,617	2,441,632	2,662,285	1,780,053	11,873	4,086,111
Kitchen equipment.....	237,535	5,701,889	6,123,232	21,336	40,544	215,389
Soap.....	138,806	956,963	1,241,883	424,720	137	648,179
Window curtains and fixtures.....	313,655	263,513	796,719	—	—	—
Miscellaneous household utilities.....	1,380,693	1,683,766	3,676,543	72,983	136,747	481,688
Jewellery, personal ornaments and timepieces..	781,688	1,864,284	6,594,893	93,712	13,101	202,619
Jewellery and personal ornaments.....	730,068	1,044,997	4,043,067	8,450	7,646	19,676
Timepieces.....	51,620	819,287	2,551,826	85,262	5,455	182,943
Personal utilities.....	897,582	1,666,470	3,910,356	52,723	4,860	525,371
Toilet articles.....	448,712	1,063,873	2,332,883	52,723	4,860	525,371
Other personal utilities....	448,870	602,597	1,577,473	—	—	—
Recreation equipment and supplies.....	746,158	4,085,588	6,042,323	2,057,423	1,954,562	5,055,098
Musical instruments and accessories.....	103,823	1,621,562	1,954,399	8,284	134,956	227,676
Picture machines and accessories.....	88,379	1,350,346	1,492,992	2,006,254	1,348,721	4,250,536
Equipment for indoor games.....	81,236	76,287	172,607	—	—	—
Miscellaneous articles for amusement.....	472,720	1,037,393	2,422,325	42,885	470,885	576,886
Electrical Energy.						
Electrical energy.....	—	91,332	91,332	—	4,449,711	4,453,280
Electrical Equipment.						
Batteries.....	360,782	391,561	758,850	339	4,229	297,633
Dynamos and motors.....	904,044	2,784,860	3,979,825	91	14,601	59,076
Lighting equipment.....	25,014	1,387,279	1,557,458	—	—	—
Transmission equipment....	32,594	877,121	911,821	—	3,602,885	3,668,932
Other electric apparatus....	1,493,595	19,859,690	21,637,717	504,682	97,387	2,309,879
Producers' Equipment.						
Abrasives.....	134,905	2,184,753	2,350,838	111,289	2,493,563	2,625,352
Containers, wrapping and packing materials.....	2,209,731	7,122,376	11,554,018	272,771	198,380	2,217,991
Bags and sacks.....	128,443	492,946	706,566	29,817	3,110	138,993
Barrels.....	29,834	1,023,874	1,089,127	—	7,937	64,758
Cordage (except binder twine).....	53,262	129,238	198,649	11,561	1,303	91,958
Wrapping paper.....	159,624	1,014,885	1,497,004	218,575	22,039	1,416,482
Miscellaneous containers, etc.....	1,838,568	4,461,433	8,062,672	12,818	163,991	505,800

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification According to Purpose, fiscal year ended Mar. 31, 1931—continued.

Group.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	\$	\$	\$	\$	\$	\$
Producers' Equipment—concluded.						
Farm equipment.....	702,286	17,016,387	20,146,334	425,139	3,998,486	9,672,377
Agricultural implements and machinery.....	135,924	15,481,605	16,591,637	333,034	2,045,663	7,207,201
Dairying equipment.....	21,695	1,110,847	1,374,462	1,932	276,162	300,425
Engines for farm purposes.....	43,874	6,454,931	7,184,867	141	15,227	19,123
Planting and tillage implements.....	2,169	1,710,049	1,716,493	40,528	984,992	2,378,136
Harvesting equipment..	8,621	4,050,428	4,089,733	62,405	174,465	1,599,998
Seed separation machinery.....	-	1,007,674	1,008,053	-	193,605	401,873
Other agricultural implements and machinery, and parts of.....	59,565	1,147,676	1,218,029	228,028	401,212	2,507,642
Animals (except animals for food).....	235,033	638,477	913,969	62,589	1,541,924	1,913,476
Animals for improvement of stock.....	211,882	298,891	525,882	56,318	625,779	905,974
Other animals.....	23,151	339,586	388,087	6,271	916,145	1,007,502
Fencing materials.....	207,628	386,025	789,650	27,407	385,946	510,716
Harness and horse equipment.....	63,583	65,258	130,589	1,171	2,126	10,493
Plants, trees and shrubs...	59,687	228,748	1,503,671	938	22,827	30,491
Miscellaneous farm equipment.....	431	216,274	216,818	-	-	-
Industrial equipment.....	6,044,476	44,322,721	52,115,089	709,107	869,799	3,597,731
Fisheries equipment.....	1,127,830	747,577	1,998,226	-	47,449	54,405
Industrial and trade machinery (except mining, electrical and printing machinery, boilers and engines)...	2,719,329	27,979,929	31,281,284	407,008	758,690	2,489,154
Construction machinery	35,203	2,363,835	2,402,248	-	416,842	442,319
Office or business machinery and accessories..	35,060	1,985,019	2,030,030	90,753	3,878	243,210
Metal-working machinery.....	546,114	4,338,715	4,978,496	4,000	350	19,485
Pulp and paper-making machinery and accessories.....	14,863	1,088,177	1,110,701	124,822	4,404	614,848
Textile and cordage machinery.....	636,154	3,050,180	3,748,454	-	-	-
Other industrial machinery.....	1,451,935	15,154,003	17,011,355	187,433	333,216	1,169,292
Mining and metallurgical equipment.....	585,218	5,856,357	6,766,185	-	-	-
Printing equipment.....	374,882	3,567,882	4,125,639	791	8,540	12,000
Photographic equipment..	59,524	1,017,564	1,184,563	15	1,944	4,103
Tools, n.o.p.....	244,508	1,528,208	2,078,213	20,518	10,317	161,091
Transmission equipment (except electrical).....	144,602	378,352	525,115	112,064	2,595	442,016
Miscellaneous industrial equipment.....	788,583	3,246,852	4,155,864	168,711	40,264	434,962
Light, heat and power equipment and supplies (except electrical and transportation).....	6,712,859	69,791,186	80,948,527	128,261	2,316,867	5,885,443
Boilers and engines (except for farms).....	456,314	2,311,442	2,937,157	4,320	13,891	151,812
Fuel.....	6,210,499	65,651,829	75,933,905	99,943	2,230,925	4,986,000
Coal.....	6,144,513	44,161,746	52,231,209	99,943	882,258	2,976,426
Fuel oils.....	-	16,045,878	18,192,311	-	405,109	1,063,811
Other fuels.....	65,986	5,444,205	5,510,385	-	943,558	945,763
Illuminants.....	1,368	467,820	494,385	1,090	70,638	699,345
Other light, heat and power equipment.....	44,678	1,360,095	1,583,080	22,908	1,413	48,286
Lubricating oils and greases.	237,312	4,890,282	5,131,019	11,493	13,399	110,743

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification According to Purpose, fiscal year ended Mar. 31, 1931—continued.

Group.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
Producers' Materials.	\$	\$	\$	\$	\$	\$
Building and construction materials.....	3,368,942	22,382,790	29,272,497	6,910,603	30,715,978	45,773,048
Asphalt and its products.....	91	757,728	767,735	—	—	—
Brick and tile.....	556,805	2,383,148	3,115,417	—	53,832	59,405
Cement, lime and plaster.....	363,503	376,974	744,233	—	438,251	723,126
Glass for building.....	543,387	278,029	2,235,483	—	—	—
Structural iron.....	312,192	5,083,665	5,881,527	—	1,070	291,784
Iron piping.....	299,601	1,845,735	2,296,791	138,407	625,925	1,652,280
Nails.....	6,944	23,208	44,424	3,629	8,004	226,399
Lumber and timber.....	21,952	4,620,372	4,675,320	5,714,926	28,036,426	39,040,065
Paints and painters' materials.....	640,733	2,942,588	4,216,761	125,050	43,204	400,191
Paints and varnishes.....	225,431	563,432	810,047	105,033	18,277	345,167
Painters' materials.....	415,302	2,379,156	3,406,714	20,017	24,927	55,024
Stone, marble and slate.....	108,081	965,225	1,380,283	200	282,841	284,836
Railway materials.....	16,032	1,305,117	1,342,115	353,183	695,561	1,601,080
Miscellaneous construction materials.....	499,621	1,801,001	2,572,408	575,208	530,864	1,493,882
Farm materials.....	704,040	6,089,862	11,262,065	1,715,109	11,573,601	15,155,423
Fertilizers.....	74,266	3,165,748	5,414,006	1,131	3,970,763	4,634,173
Fodders.....	3,801	424,667	494,571	1,064,637	6,168,256	8,105,714
Seeds.....	245,101	1,622,807	3,388,179	266,301	514,152	912,697
Miscellaneous farm materials.....	380,872	876,640	1,965,309	383,040	920,430	1,502,839
Manufacturers' materials.....	51,249,780	178,346,462	282,390,281	39,787,706	240,839,590	321,003,586
For explosives and ammunition.....	13,790	187,669	696,051	—	—	—
For textiles, clothing, etc.....	34,458,830	35,986,149	95,779,888	135,342	322,399	845,506
Fibres for spinning or cordage manufacture.....	4,468,308	21,272,029	29,383,399	99,416	294,275	427,032
Yarn for weaving, etc.....	5,765,564	2,570,930	9,876,688	—	—	—
Piece goods for clothing.....	23,177,464	10,140,907	51,660,336	1,194	9,636	114,498
Thread for sewing.....	588,259	387,984	1,028,618	—	—	—
Buttons and materials for (except shoe buttons).....	21,757	169,962	482,144	4,876	30	5,547
Corset materials.....	5,888	82,421	88,665	—	—	—
Hat materials.....	199,504	572,721	1,901,897	—	—	—
Other textile, clothing and cordage materials.....	232,086	789,195	1,358,141	29,856	18,458	298,429
For dyeing and tanning.....	189,031	2,012,652	3,305,590	—	1,746	2,191
For fur and leather goods.....	1,136,361	13,312,760	17,452,503	9,279,408	11,582,342	22,808,700
Furs.....	438,113	6,740,143	8,155,526	8,123,649	5,500,127	15,015,566
Hides.....	21,979	2,331,309	4,704,924	93,167	3,056,566	3,362,008
Leather.....	668,814	3,490,686	4,811,261	1,062,592	3,025,649	4,431,126
Other materials.....	7,455	250,622	280,792	—	—	—
For smelters and refineries.....	256,895	6,427,548	9,128,035	7,505,066	44,783,640	55,328,461
For foundries.....	282,696	2,587,853	3,029,180	6,434,135	3,055,699	14,768,926
For machinery, implements, tools and cutlery.....	73,275	1,742,502	2,255,777	44,950	6,804	77,888
For electrical goods.....	10,037	752,973	780,291	—	—	—
For furniture and wood wares.....	20,184	3,663,309	3,764,020	681,860	41,637	1,244,204
Cabinet woods.....	14,724	2,680,471	2,739,462	63,014	8,704	99,328
Other materials.....	5,460	982,838	1,024,558	618,846	32,933	1,144,876
For musical instruments.....	12,407	52,924	74,180	5,154	245	74,581
For wood-pulp.....	86,250	3,992,429	4,300,353	—	12,040,484	12,040,484
For paper-making.....	22,181	668,163	761,870	1,343,067	29,602,789	35,845,315
For paper goods, printing and bookbinding.....	406,151	3,012,478	3,512,800	7,361,757	111,619,417	128,969,555
For rubber industries.....	34,483	7,868,358	8,012,076	206	69,374	72,553
For vehicles (not including complete parts).....	258,945	982,245	1,241,545	—	—	—
For vessels.....	454,709	1,094,110	1,637,581	20	19,689	22,850
Other materials for chemical-using industries.....	1,355,716	4,750,527	7,268,430	1,183,423	2,878,928	5,733,167
Other materials for metal-working industries.....	9,571,802	36,283,908	47,877,792	1,806,614	13,122,918	23,550,061
Other materials for wood-using industries.....	688	699,701	820,569	589,284	1,993,684	3,493,227
Other manufacturers' materials.....	2,605,349	52,268,204	70,691,750	3,417,420	9,697,795	16,125,917

16.—Summary of the External Trade of Canada, by Main Groups, Compiled on a Classification According to Purpose, fiscal year ended Mar. 31, 1931—concluded.

Group.	Imports for Consumption.			Exports of Canadian Produce.		
	United Kingdom.	United States.	Total.	United Kingdom.	United States.	Total.
	\$	\$	\$	\$	\$	\$
Transportation.						
Vehicles.....	1,608,760	47,307,045	49,187,148	719,765	282,098	29,300,504
Automobiles and parts....	587,015	41,876,141	42,632,364	603,175	175,925	17,129,283
Other motor vehicles, not for railways.....	123,914	453,565	597,877	250	554	12,935
Bicycles and tricycles....	105,575	29,218	144,211	115	433	7,767
Railway rolling stock.....	207,549	2,067,263	2,275,423	—	5,893	212,917
Locomotives.....	521	567,010	567,531	—	1,841	8,313
Motor cars.....	581	42,740	43,321	—	—	—
Other cars.....	206,447	1,457,513	1,664,571	—	4,052	204,604
Other vehicles.....	563,857	2,488,047	3,111,789	1,558	82,400	168,524
Rubber tires.....	20,850	392,811	425,484	114,667	16,893	11,769,078
Vessels.....	86,025	801,422	969,740	2,643	155,859	562,719
Ships and boats.....	15,171	465,142	559,187	2,643	155,859	562,719
Equipment for ships.....	70,854	336,280	410,553	—	—	—
Medical Supplies.						
Alkaloids and their salts....	72,055	126,108	322,586	12,539	188,543	262,449
Biological medicines.....	3,017	211,144	230,975	—	—	—
Drugs, crude.....	5,132	202,797	248,504	—	—	—
Medicinal and pharmaceutical preparations.....	719,250	1,685,739	3,192,552	243,238	16,772	560,485
Oils and gums, chiefly for medicinal use.....	66,714	64,655	386,207	—	127,534	129,808
Medical, surgical and dental equipment and materials.....	268,325	2,453,086	2,956,355	—	—	—
Arms, Explosives and War Stores.						
Arms.....	36,281	193,203	274,678	—	—	189
Military equipment.....	70,125	171	73,676	—	—	—
Ammunition and explosives.....	221,795	541,833	794,103	655	7,250	269,194
Goods for Exhibition.						
Animals.....	660	1,264,656	1,272,316	4,123	250,138	254,261
Other goods.....	30,243	4,656,760	4,697,115	—	—	—

17.—Values of Total Exports, Imports Entered for Consumption, and Duty Collected thereon, at certain Ports and by Provinces, during the fiscal years ended Mar. 31, 1930 and 1931.

NOTE.—The values of imports and exports at the several ports of entry given in the following table indicate that merchandise of the value stated was entered inwards, or passed outwards, at the ports mentioned, but do not imply that the imports were all for consumption at such ports or that the exports originated there.

Province and Port.	1930.			1931.		
	Total Exports.	Imports for Consumption.	Duty Collected.	Total Exports.	Imports for Consumption.	Duty Collected.
	\$	\$	\$	\$	\$	\$
P. E. Island.						
Totals, P. E. Island.....	2,521,560	1,604,792	178,759	1,815,717	1,709,296	167,524
Nova Scotia.						
Halifax.....	45,894,686	25,940,282	2,505,217	34,792,102	20,219,909	2,677,445
North Sydney.....	3,596,706	433,232	26,171	2,943,274	415,275	30,553
Sydney.....	3,008,406	3,737,388	331,350	2,043,289	3,118,646	234,742
Yarmouth.....	2,855,560	1,646,477	74,161	2,531,090	834,490	56,511
Totals, Nova Scotia¹.....	62,579,160	37,429,661	3,594,210	52,107,869	28,952,236	3,428,148

¹ Include other smaller ports.

17.—Values of Total Exports, Imports Entered for Consumption, and Duty Collected thereon, at certain Ports and by Provinces, during the fiscal years ended Mar. 31, 1930 and 1931—continued.

Province and Port.	1930.			1931.		
	Total Exports.	Imports for Consumption.	Duty Collected.	Total Exports.	Imports for Consumption.	Duty Collected.
New Brunswick.						
Fredericton.....	\$ —	\$ 2,300,519	\$ 835,794	\$ —	\$ 1,662,371	\$ 744,425
McAdam Jct.....	11,238,213	347,108	39,817	7,121,196	251,719	28,454
Moncton.....	284,112	2,377,906	450,216	345,920	2,011,138	393,217
Saint John.....	41,395,708	16,586,341	2,210,096	35,902,487	15,547,028	1,638,511
Woodstock.....	6,406,048	778,921	94,598	6,427,163	1,628,053	76,118
Totals, New Brunswick¹	61,206,430	26,239,284	4,043,867	52,349,592	24,377,083	3,331,242
Quebec.						
Athelstan.....	24,312,858	3,153,396	162,922	14,843,059	1,478,950	114,445
Chicoutimi.....	8,091,989	2,973,974	194,872	5,471,249	2,982,723	149,869
Coaticook.....	9,680,612	706,616	30,952	6,656,678	296,950	18,849
Drummondville.....	—	4,298,035	383,860	36	4,013,935	483,313
Hull.....	—	2,484,225	215,970	—	1,840,089	203,096
Montreal.....	161,577,392	255,769,232	44,901,509	132,764,484	201,171,761	36,292,851
Quebec.....	12,772,683	17,031,590	2,596,950	10,055,317	13,321,727	2,190,517
Rock Island.....	7,082,513	1,788,614	117,238	3,171,319	1,272,012	68,684
St. Armand.....	27,811,139	577,064	45,529	21,393,414	707,516	46,587
St. Hyacinthe.....	—	3,668,025	252,277	—	2,609,768	150,054
St. Johns.....	70,542,168	10,706,703	1,000,424	51,010,638	8,887,454	772,372
Shawinigan Falls.....	—	5,531,256	295,841	—	2,997,401	133,062
Sherbrooke.....	416,119	10,195,484	1,081,921	361,479	5,920,634	631,899
Sutton.....	15,233,001	397,259	53,284	9,796,157	234,083	31,278
Three Rivers.....	5,624,968	5,017,460	421,370	6,985,100	4,275,029	403,597
Valleyfield.....	—	2,925,978	289,307	—	2,278,554	188,663
Totals, Quebec¹	345,602,133	330,429,503	52,344,646	266,110,102	257,220,412	42,109,876
Ontario.						
Amherstburg.....	7,000,824	2,067,967	473,944	1,028,807	1,508,931	363,481
Belleville.....	285,249	2,471,257	591,016	1,244,154	3,040,073	478,992
Brantford.....	14,945	7,906,625	634,461	15,523	4,631,002	471,361
Bridgeburg.....	86,333,131	6,091,676	897,943	45,173,313	5,049,496	826,196
Brockville.....	635,408	6,471,581	130,716	261,865	1,663,539	126,581
Chatham.....	603,897	4,778,380	827,045	36,022	3,091,555	580,014
Cobourg.....	1,758,858	2,310,133	341,246	1,582,666	1,593,169	283,040
Cornwall.....	4,778,612	2,853,511	210,340	2,066,365	2,422,320	283,073
Fort Frances.....	19,527,358	1,589,979	281,463	14,324,172	979,587	174,316
Fort William.....	36,599,237	10,070,138	1,458,320	29,713,377	7,051,325	1,400,129
Galt.....	669	6,679,742	554,524	1,173	4,798,869	439,735
Guelph.....	—	4,916,837	470,708	—	3,208,705	348,584
Hamilton.....	3,347,010	53,449,526	6,442,157	2,146,335	35,138,911	4,587,868
Kingston.....	428,038	2,125,824	235,266	194,867	2,498,298	207,623
Kitchener.....	—	13,512,517	1,213,375	—	8,306,492	888,658
London.....	—	13,984,241	2,062,855	—	11,258,910	1,852,134
Niagara Falls.....	104,066,323	13,044,414	1,962,118	59,497,092	9,287,067	1,370,384
North Bay.....	302,002	3,429,840	513,056	253,811	3,399,292	513,986
Oshawa.....	378	17,456,142	4,330,603	232	9,318,718	2,326,522
Ottawa.....	—	16,431,226	3,095,253	—	11,771,106	2,264,683
Parry Sound.....	419,443	1,468,726	292,790	249,931	1,595,563	350,172
Peterborough.....	860	9,753,757	1,497,178	1,295	6,246,836	1,067,373
Port Arthur.....	77,564,504	1,875,892	229,143	54,870,619	1,378,577	194,565
Prosscott.....	9,354,916	3,663,540	530,111	6,878,982	3,058,477	508,341
St. Catharines.....	102,565	7,669,772	1,115,527	3,606,171	4,666,726	684,729
St. Thomas.....	169,974	3,040,212	498,269	36,519	2,214,298	396,177
Sarnia.....	41,156,704	21,338,741	995,832	27,045,773	15,733,637	932,575
Sault Ste. Marie.....	9,246,511	8,417,534	1,141,672	5,406,133	5,397,158	643,213
Stratford.....	—	3,083,051	373,178	—	2,143,910	265,109
Sudbury.....	—	4,861,667	576,437	—	2,670,530	343,825
Toronto.....	1,601,804	266,657,235	47,902,777	904,876	194,136,182	36,515,378
Wallaceburg.....	770,507	3,064,157	700,443	233,057	2,507,393	410,668
Welland.....	1,482,267	16,787,485	971,779	606,818	11,400,125	799,791
Windsor.....	54,634,546	65,569,470	14,211,512	34,103,289	43,586,231	8,851,997
Woodstock.....	7,898	2,938,357	230,074	4,600	1,696,351	155,273
Totals, Ontario¹	463,410,894	628,643,602	99,724,275	292,564,099	440,271,306	73,362,478
Manitoba.						
Brandon.....	56,569	2,427,901	269,481	29,370	1,432,246	162,976
Emerson.....	15,822,644	1,528,656	173,956	8,225,585	1,120,159	131,924
Winnipeg.....	23,305	48,702,403	9,483,040	28,188	32,333,607	6,579,336
Totals, Manitoba¹	15,918,097	54,796,610	10,249,653	8,289,406	35,971,119	7,006,492

¹ Include other smaller ports.

17.—Values of Total Exports, Imports Entered for Consumption, and Duty Collected thereon, at certain Ports and by Provinces, during the fiscal years entered Mar. 31, 1930 and 1931—concluded.

Province and Port.	1930.			1931.		
	Total Exports.	Imports for Consumption.	Duty Collected.	Total Exports.	Imports for Consumption.	Duty Collected.
Saskatchewan.	\$	\$	\$	\$	\$	\$
Moose Jaw.....	86,825	5,727,287	626,816	37,114	3,399,436	437,486
North Portal.....	10,590,321	847,382	91,395	5,679,088	1,114,325	120,321
Regina.....	50,794	16,919,867	3,034,947	12,860	9,540,959	1,848,018
Saskatoon.....	-	7,174,489	956,959	-	3,992,386	607,320
Totals, Saskatchewan¹	10,727,940	31,390,356	4,787,912	5,729,062	18,766,485	3,065,568
Alberta.						
Calgary.....	-	24,025,002	3,662,600	-	10,568,372	2,010,405
Edmonton.....	-	9,686,420	1,943,999	-	5,798,581	1,346,254
Lethbridge.....	1,141,670	4,406,266	361,854	847,591	4,264,407	288,255
Medicine Hat.....	-	803,458	90,974	-	418,635	59,043
Totals, Alberta	1,141,670	38,921,146	6,059,427	847,591	21,049,995	3,703,957
British Columbia.						
Abbotsford.....	6,134,566	402,131	56,016	2,595,573	230,982	36,125
Cranbrook.....	890,681	836,719	74,618	448,620	627,173	50,282
Fernie.....	843,072	290,750	48,942	287,311	184,731	38,809
Naanaimo.....	7,489,295	432,520	58,057	5,730,843	198,367	31,161
New Westminster.....	19,833,478	3,190,362	562,665	17,955,795	2,024,814	307,940
Prince Rupert.....	11,084,734	1,409,531	252,935	8,039,369	934,132	137,503
Vancouver.....	127,214,949	79,447,707	14,122,354	95,325,305	63,800,048	10,184,100
Victoria.....	4,652,571	9,790,042	2,276,856	3,902,418	7,155,731	1,771,070
Totals, British Columbia¹	178,551,135	98,271,217	17,898,924	134,605,255	77,842,021	12,824,379
Yukon Territory.						
Totals, Yukon	3,279,051	513,345	122,338	2,609,355	421,718	90,519
Prepaid postal parcels, duty received through P.O. Department.....	-	34,066	7,617	-	31,024	7,673
Grand Totals	1,144,938,070	1,248,273,582	199,011,628	817,028,048	906,612,695	149,250,992

¹ Include other smaller ports.

18.—Dutiable Imports of Canada, by Values Entered for Consumption from British Empire and Foreign Countries, under the General, Preferential and Treaty Rate Tariffs, in the fiscal years ended Mar. 31, 1930 and 1931.

Country.	1930.			1931.		
	General Tariff.	Preferential Tariff.	Treaty Tariff.	General Tariff.	Preferential Tariff.	Treaty Tariff.
British Empire.	\$	\$	\$	\$	\$	\$
United Kingdom.....	39,461,391	107,404,053	1,777,604	30,042,250	77,077,364	1,450,748
Irish Free State.....	23,886	29,905	2,696	19,902	5,214	2,957
Africa—British East.....	11,015	1,887,147	-	1,546	2,004,928	-
British South.....	714	701,523	-	5,260	2,263,031	1,803
British West.....	35,014	-	357,075	7,018	-	238,468
Australia.....	135,524	1,864,082	62,802	400,311	1,688,935	90,668
British East Indies—						
British India.....	220,473	3,372,791	258	67,916	603,069	2,839
Ceylon.....	30,350	2,307,516	1,500	47,994	289,102	-
Straits Settlements.....	117,100	483,267	999	78,034	562,056	2,732
British Guiana.....	45,806	3,823,423	53	22,629	4,242,575	87
British West Indies—						
Barbados.....	14,307	3,292,128	32	32,258	2,593,509	27
Jamaica.....	24,549	1,850,995	53	36,045	2,266,411	834
Trinidad and Tobago.....	26,260	1,976,841	25,854	7,802	1,900,833	16,573
Other.....	76,443	483,495	418	24,630	1,984,952	3,163
Fiji.....	88	3,672,149	-	64	2,794,467	383
Hong Kong.....	960,959	-	30,789	639,382	-	22,285
Newfoundland.....	93,373	15,377	31	58,376	12,098	-
New Zealand.....	203,731	13,731,924	10,434	34,979	4,143,568	5,025
Totals, British Empire¹	41,566,892	146,937,359	2,273,931	31,626,340	104,436,589	1,842,734

¹ Include other minor countries not specified.

18.—Dutiable Imports of Canada, by Values Entered for Consumption from British Empire and Foreign Countries, under the General, Preferential and Treaty Rate Tariffs, in the fiscal years ended Mar. 31, 1930 and 1931—concluded.

Country.	1930.			1931.		
	General Tariff.	Preferential Tariff.	Treaty Tariff.	General Tariff.	Preferential Tariff.	Treaty Tariff.
Foreign Countries.	\$	\$	\$	\$	\$	\$
Argentina.....	3,552,053	—	672,154	1,522,764	—	857,342
Belgium.....	2,125,789	—	7,411,901	1,116,191	—	4,773,068
Denmark.....	35,035	—	49,919	22,649	—	153,387
France.....	1,563,479	—	21,843,100	1,032,004	—	16,554,080
Germany.....	16,690,755	—	—	12,010,366	—	—
Italy.....	699,035	—	3,504,576	440,475	—	3,543,920
Japan.....	1,172,997	—	7,823,470	606,265	—	6,098,866
Netherlands.....	3,159,476	—	2,592,441	2,455,273	—	2,160,969
Norway.....	96,225	—	909,823	90,459	—	640,776
Spain.....	770,589	—	1,604,092	418,604	—	1,342,415
Sweden.....	428,144	—	1,184,154	254,484	—	1,215,309
Switzerland.....	1,747,118	—	4,903,045	1,227,161	—	3,194,480
United States.....	523,299,322	—	—	359,640,701	—	—
Tota's, Foreign Countries¹	571,959,850	—	56,492,451	391,974,464	—	44,210,103
Totals, Dutiable Imports Entered for Consump- tion.....	613,526,742	146,937,350	58,766,382	423,600,804	104,436,589	46,052,837

¹ Include other minor countries not specified.

19.—Values of Imports into Canada of Merchandise Entered for Consumption, from the British Empire and from Foreign Countries, in the five fiscal years ended Mar. 31, 1927-31.

Country.	1927.	1928.	1929.	1930.	1931.
British Empire.	\$	\$	\$	\$	\$
United Kingdom.....	163,939,065	186,435,824	194,041,381	189,179,738	149,497,392
Irish Free State.....	47,140	29,611	58,875	267,905	678,115
Aden.....	28,994	14,546	21,939	12,510	8,734
Africa—British East.....	476,974	1,223,113	297,683	1,982,243	2,082,125
British South.....	1,001,592	404,364	280,267	824,025	3,329,528
British West.....	1,030,122	1,939,313	1,226,539	1,321,906	1,156,779
Bermuda.....	112,185	53,642	61,771	93,460	297,004
British East Indies—British India.....	7,880,914	9,239,779	10,366,548	9,032,740	8,426,716
Ceylon.....	2,612,831	2,731,531	2,529,140	2,600,423	2,708,845
Straits Settlements.....	2,756,817	2,459,045	2,015,207	1,536,879	766,862
Other.....	40,016	6,150	1,739	170	16,971
British Guiana.....	4,592,106	6,072,172	4,873,237	3,982,493	4,288,157
British Honduras.....	262,262	157,925	260,519	340,577	207,186
British Sudan.....	21,437	6,844	12,180	3,414	25,356
British West Indies—Barbados.....	3,791,394	6,215,804	5,199,197	4,675,158	4,264,508
Jamaica.....	4,759,563	5,481,308	4,790,295	5,194,973	4,792,599
Trinidad and Tobago.....	2,821,485	2,099,201	3,376,058	2,590,157	2,321,007
Other.....	2,486,091	3,552,999	2,077,839	1,201,625	2,571,905
Gibraltar.....	957	683	160	—	—
Hong Kong.....	1,422,207	1,440,897	1,402,502	1,259,085	833,608
Iraq (Mesopotamia).....	2,644	66,738	31,129	29,102	45,525
Malta, Cyprus and Gozo.....	967	875	2,623	1,627	4,322
Newfoundland.....	1,868,601	2,097,525	2,513,406	2,378,103	2,501,761
Oceania—Australia.....	6,296,165	5,301,618	3,484,836	4,211,351	4,616,722
Fiji.....	1,230,542	4,317,876	5,697,912	3,676,604	2,807,355
New Zealand.....	4,577,546	8,262,322	12,771,194	16,282,719	6,671,252
Palestine.....	7,921	15,590	25,163	24,717	23,617
Totals, British Empire¹	214,068,538	249,627,295	257,419,339	252,703,704	204,943,951
Foreign Countries.					
Abyssinia.....	12,869	40,784	32,295	35,683	30,396
Argentina.....	5,657,074	9,849,754	7,427,568	10,232,327	6,739,697
Austria.....	482,264	594,875	678,193	797,370	595,319
Belgium.....	9,663,308	9,898,237	12,014,538	13,019,006	8,420,019
Brazil.....	1,969,621	2,088,200	1,726,314	1,687,707	1,349,124
Chile.....	471,424	522,597	379,453	667,126	428,310
China.....	5,041,592	2,572,453	3,095,296	2,977,022	4,810,814

¹ Include other minor countries not specified.

19.—Values of Imports into Canada of Merchandise Entered for Consumption, from the British Empire and from Foreign Countries, in the five fiscal years ended Mar. 31, 1927-31—concluded.

Country.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Foreign Countries—concluded.					
Colombia.....	1,117,046	7,580,376	6,849,408	7,252,691	5,036,898
Costa Rica.....	44,488	47,358	75,062	136,934	89,652
Cuba.....	8,076,575	5,587,171	4,903,506	3,510,227	2,408,647
Czechoslovakia.....	1,726,922	2,423,984	3,267,593	3,792,389	3,176,387
Denmark.....	175,215	126,283	152,721	178,660	265,642
Greenland.....	—	—	214,276	168,376	179,200
Ecuador.....	563	618,001	—	—	—
Egypt.....	113,052	159,213	193,573	155,852	77,257
Finland.....	82,636	93,106	98,286	91,273	90,408
France.....	23,992,322	26,473,732	26,215,696	25,158,207	19,004,102
French Africa.....	10,971	142,331	153,244	113,329	107,561
French East Indies.....	1,387	61,340	1,099	12,685	34,748
St. Pierre and Miquelon.....	73,054	77,560	55,524	64,169	636,415
Germany.....	15,080,138	17,055,798	20,797,683	21,505,428	16,187,036
Greece.....	329,081	254,134	370,708	374,266	233,794
Guatemala.....	182,860	93,390	20,984	37,598	30,673
Hayti.....	373,479	198,206	251,497	70,783	—
Honduras.....	927,108	622,299	—	352,805	4,280
Hungary.....	60,956	66,939	18,001	47,744	66,817
Italy.....	3,444,062	4,241,802	4,260,325	4,963,694	5,048,957
Japan.....	11,170,380	12,505,373	12,921,317	12,537,253	9,342,967
Korea.....	74	2,101	2,359	1,928	718
Latvia.....	—	41,043	22,102	4,317	615
Mexico.....	2,372,972	1,174,087	1,170,245	749,645	769,323
Morocco.....	13,215	14,728	28,666	48,556	32,159
Netherlands.....	7,683,668	8,794,049	9,016,763	9,432,608	7,287,132
Dutch East Indies.....	857,439	1,131,283	704,663	630,120	440,546
Dutch Guiana.....	—	13,409	52,592	28,135	—
Dutch West Indies.....	180,267	495,078	173,319	441,151	1,838,964
Nicaragua.....	70,035	2,561	3,337	28,152	29,212
Norway.....	911,357	1,064,215	989,504	1,104,935	820,902
Paraguay.....	14,047	130,406	5,589	—	21,229
Persia.....	115,483	124,427	348,823	246,954	106,043
Peru.....	5,893,106	5,216,402	4,447,858	7,492,128	4,535,524
Poland and Danzig.....	43,875	135,452	79,247	143,430	139,003
Portugal.....	471,026	722,279	678,030	683,114	578,824
Azores and Madeira.....	91,841	130,343	84,804	139,290	156,151
Roumania.....	35,666	46,947	32,364	27,308	95,427
Russia.....	20,336	73,119	236,881	909,525	1,917,652
Salvador.....	78,639	23,044	—	14,032	1,498
Santo Domingo.....	6,015,541	2,452,841	1,135,360	1,776,772	367,872
Siam.....	16,988	42,379	10,391	51,393	—
Spain.....	2,220,823	2,572,150	2,703,075	2,784,059	1,960,759
Canary Islands.....	326	1,964	7,060	5,568	4,300
Sweden.....	1,643,973	1,862,120	2,185,089	2,259,040	2,087,457
Switzerland.....	9,481,779	8,595,677	7,917,445	7,314,840	5,484,463
Syria.....	13,268	15,162	18,368	17,612	13,150
Turkey.....	406,114	526,321	574,178	496,156	399,593
United States.....	687,022,521	718,896,270	868,012,229	847,442,037	584,407,018
Alaska.....	173,572	171,562	145,010	177,692	106,099
Hawaii.....	255,576	309,753	316,930	332,250	287,673
Philippines.....	178,764	159,879	196,859	171,474	154,408
Porto Rico.....	15,696	1,490	3,760	7,687	431
Uruguay.....	55,280	80,507	9,122	66,147	152,424
Venezuela.....	190,778	213,538	701,935	528,962	3,024,584
Yugoslavia.....	6,854	12,041	25,543	30,938	68,911
Totals, Foreign Countries:	816,823,967	859,329,171	1,008,259,752	995,569,878	701,668,744
Grand Totals, Imports:	1,030,892,505	1,108,956,466	1,265,679,091	1,248,273,582	906,612,695
Continents.					
Europe—United Kingdom.....	163,939,065	186,435,824	194,041,381	189,179,738	149,497,392
Other Europe.....	78,090,433	85,853,184	92,737,045	95,548,297	74,339,207
North America.....	721,710,922	749,501,321	894,230,637	871,452,695	607,825,326
South America.....	19,961,401	32,390,560	26,473,076	31,937,716	25,575,947
Asia.....	31,971,533	32,428,804	33,692,542	31,142,067	28,133,865
Oceania.....	12,538,593	18,351,448	22,270,872	24,502,924	14,383,002
Africa.....	2,680,558	3,995,325	2,233,538	4,510,145	6,857,956

¹Include other minor countries not specified.

20.—Values of Exports of Canadian Produce, from Canada to the British Empire and to Foreign Countries, in the five fiscal years ended Mar. 31, 1927-31.

Country.	1927.	1928.	1929.	1930.	1931.
British Empire.					
	\$	\$	\$	\$	\$
United Kingdom.....	446,872,851	410,691,392	429,730,485	281,745,965	219,246,499
Irish Free State.....	6,057,004	4,325,251	4,144,743	2,711,544	2,764,489
Aden.....	38,638	31,056	40,906	63,355	33,265
Africa—British East.....	649,885	1,223,232	1,568,171	1,707,167	968,898
British South.....	8,388,731	8,724,969	12,231,773	10,917,642	10,286,940
British West.....	883,868	893,074	1,245,818	1,083,269	924,149
Bermuda.....	1,286,770	1,364,952	1,628,003	2,287,280	2,492,260
British East Indies—British India.....	9,995,386	11,042,851	11,858,436	9,116,251	6,957,050
Ceylon.....	708,096	727,369	661,793	486,236	181,653
Straits Settlements.....	2,460,430	1,540,530	1,203,909	1,105,228	685,381
Other.....	1,210	4,458	8,526	8,875	—
British Guiana.....	2,408,677	2,284,744	2,238,506	1,661,332	1,139,915
British Honduras.....	484,712	604,613	900,034	892,518	1,742,464
British Sudan.....	20,661	118,449	160,704	95,093	13,971
British West Indies—Barbados.....	1,624,403	1,836,952	1,681,950	1,324,569	1,118,603
Jamaica.....	4,307,751	4,951,196	5,266,083	5,138,757	3,749,384
Trinidad and Tobago.....	3,840,984	4,240,751	4,153,571	3,998,197	3,286,070
Other.....	3,748,716	3,861,847	4,656,219	4,567,639	2,273,905
Gibraltar.....	405,064	23,958	75,391	71,491	41,978
Hong Kong.....	1,460,274	2,465,946	2,837,463	2,000,124	1,961,854
Iraq (Mesopotamia).....	163,153	289,938	137,729	79,130	19,749
Malta, Cyprus and Gozo.....	454,872	349,881	1,110,143	318,853	537,741
Newfoundland.....	11,169,991	11,661,248	11,160,510	12,178,392	10,658,637
Oceania—Australia.....	18,965,881	14,189,446	19,470,305	16,322,771	6,788,708
Fiji.....	317,367	297,545	329,797	431,211	282,682
New Zealand.....	13,538,513	11,366,500	17,357,763	19,166,488	12,688,475
Other.....	78,521	49,319	78,051	71,957	25,435
Palestine.....	105,352	104,408	189,952	98,934	83,980
Totals, British Empire¹.....	540,437,761	499,265,845	536,127,017	379,650,268	292,884,145
Foreign Countries.					
Argentina.....	13,101,846	11,085,728	14,493,191	19,206,746	10,007,794
Austria.....	191,152	291,824	349,701	435,770	234,878
Belgium.....	21,341,116	20,781,857	27,301,384	21,692,858	14,962,044
Belgian Congo.....	26,938	110,594	189,180	322,837	93,313
Bolivia.....	66,670	117,954	87,604	132,315	42,964
Brazil.....	7,291,479	4,897,082	5,872,940	4,292,925	2,799,567
Chile.....	1,517,901	1,347,528	2,403,442	2,280,003	1,057,410
China.....	13,516,939	13,432,396	24,242,507	16,527,959	9,122,190
Colombia.....	1,349,315	1,732,573	1,797,393	1,643,048	1,191,940
Costa Rica.....	198,946	203,650	184,773	97,617	61,232
Cuba.....	6,827,572	5,386,679	4,442,953	4,245,576	2,868,103
Czechoslovakia.....	476,632	1,439,483	1,703,825	478,847	252,041
Denmark.....	5,666,387	6,390,662	5,981,035	4,108,704	3,604,492
Ecuador.....	54,444	124,570	139,874	111,674	59,199
Egypt.....	1,485,823	1,798,004	2,845,973	1,028,530	781,305
Estonia.....	212,164	174,181	88,680	32,509	44,510
Finland.....	1,882,874	1,838,447	2,122,129	1,331,652	1,388,556
France.....	15,220,232	9,946,145	16,131,188	16,507,011	13,285,758
French Africa.....	520,249	456,912	475,026	612,653	561,185
French West Indies.....	234,298	371,511	511,374	537,990	374,382
St. Pierre and Miquelon.....	582,006	1,476,340	2,729,124	5,859,251	11,004,479
Germany.....	34,411,021	42,244,217	46,708,804	25,343,661	12,942,236
Greece.....	6,023,161	4,282,227	11,850,771	5,387,067	5,642,245
Guatemala.....	218,383	175,917	191,930	172,877	140,599
Hayti.....	393,799	304,770	394,791	142,578	90,891
Honduras.....	117,893	110,832	235,957	143,701	153,917
Italy.....	22,815,083	18,742,516	23,024,899	11,387,294	14,552,319
Japan.....	29,929,031	32,968,243	42,099,968	30,475,581	18,958,965
Korea.....	946,807	487,360	160,995	18,509	9,961
Latvia.....	68,019	125,322	34,315	11,248	16,813
Mexico.....	2,760,686	2,539,947	2,375,985	2,583,440	2,035,576
Morocco.....	425,550	277,783	383,699	306,654	160,411
Netherlands.....	26,374,378	35,537,951	44,366,888	15,944,469	10,477,553
Dutch East Indies.....	3,651,511	2,364,334	3,605,367	2,279,871	953,778
Dutch Guiana.....	107,270	116,414	123,580	102,204	78,216
Dutch West Indies.....	142,808	163,249	185,044	264,502	183,885

¹Include other minor countries not specified.

20.—Values of Exports of Canadian Produce from Canada to the British Empire and to Foreign Countries, in the five fiscal years ended Mar. 31, 1927-31—concluded.

Country.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Foreign Countries—concluded.					
Nicaragua.....	53,976	72,733	66,562	61,999	35,758
Norway.....	5,028,104	6,665,770	7,435,537	3,674,985	3,305,334
Panama.....	504,030	1,124,817	1,040,519	877,780	706,035
Paraguay.....	58,956	80,756	96,194	75,401	59,854
Persia.....	38,207	72,896	83,577	148,928	88,465
Peru.....	1,406,958	1,285,525	1,311,267	1,795,003	1,579,294
Poland and Danzig.....	154,814	455,975	356,759	85,234	60,118
Portugal.....	1,273,457	942,210	5,735,299	1,410,606	611,643
Azores and Madeira.....	180,678	210,004	187,199	153,946	163,333
Portuguese Africa.....	876,114	1,054,816	943,194	1,210,116	1,109,735
Roumania.....	465,840	795,953	568,432	449,303	49,733
Russia.....	2,407,206	2,424,071	2,457,492	3,738,401	568,100
Salvador.....	141,297	97,232	75,803	91,432	120,990
Santo Domingo.....	461,120	413,034	332,802	227,510	243,614
Siam.....	317,828	117,227	250,575	126,808	47,017
Spain.....	543,022	609,653	5,704,255	4,503,231	1,297,080
Canary Islands.....	185,840	131,058	71,374	99,048	69,760
Sweden.....	3,415,805	4,612,342	4,765,818	4,678,037	2,447,205
Switzerland.....	594,179	498,270	483,919	1,197,480	561,747
Syria.....	113,134	158,742	476,229	242,184	82,057
Turkey.....	39,137	62,640	146,953	82,679	22,303
United States.....	466,422,789	478,145,383	499,612,145	515,049,763	349,660,563
Alaska.....	249,214	311,434	411,836	515,626	468,978
Hawaii.....	38,027	79,369	37,262	37,576	92,248
Philippines.....	230,647	272,751	321,219	266,794	236,478
Porto Rico.....	314,957	815,388	977,961	877,934	677,116
Uruguay.....	2,784,391	1,628,209	1,077,631	1,094,771	736,658
Venezuela.....	2,293,876	1,497,544	1,792,549	1,286,943	1,058,223
Yugoslavia.....	116,325	137,955	48,829	28,658	12,916
Totals, Foreign Countries¹.....	711,719,745	729,083,498	827,582,655	740,608,034	506,858,522
Grand Totals, Canadian Exports.....	1,252,157,506	1,228,349,343	1,363,709,672	1,120,258,302	799,742,667
Continents.					
Europe—United Kingdom.....	446,872,851	410,691,392	429,730,485	281,745,965	219,246,499
Other Europe.....	155,929,919	164,095,981	213,107,315	125,942,697	89,978,203
North America.....	506,191,821	519,182,576	542,487,961	561,270,595	395,431,973
South America.....	32,948,780	27,415,602	32,557,990	34,654,797	20,564,860
Asia.....	63,481,649	65,812,851	88,232,889	63,073,797	39,452,990
Oceania.....	33,199,782	26,264,343	37,313,278	36,081,304	20,039,549
Africa.....	13,532,704	14,886,598	20,279,754	17,489,147	15,028,593

¹Include other minor countries not specified.

21.—Values of Merchandise Imported into, and Exported from, Canada through United States during the fiscal years ended Mar. 31, 1930 and 1931.

Country whence Imported and to which Exported.	Merchandise Imported through United States.		Merchandise Exported through United States.	
	1930.	1931.	1930.	1931.
	\$	\$	\$	\$
British Empire.				
United Kingdom.....	1,042,164	169,820	113,333,242	79,880,087
Australia.....	102,207	418,448	3,277,288	1,141,279
Bermuda.....	537	—	90,308	19,962
British Africa.....	36,685	36,887	4,918,937	3,937,708
British India.....	114,094	42,818	3,292,036	1,630,277
British East Indies.....	639,326	140,708	1,324,596	699,255
British Guiana.....	—	—	139,558	139,333
British Honduras.....	141,517	105,208	9,670	15,457
British West Indies.....	14,447	17,570	2,557,842	1,653,515
Hong Kong.....	8,793	8,716	136,524	78,115
Iraq (Mesopotamia).....	396	—	75,648	17,775
Malta.....	—	—	298,053	174,648
New Zealand.....	148,924	35,824	6,035,301	2,822,158
Totals, British Empire¹.....	2,263,884	976,898	136,096,053	92,626,258

¹ Totals include other countries not specified.

21.—Values of Merchandise Imported into, and Exported from, Canada through United States during the fiscal years ended Mar. 31, 1930 and 1931—concluded.

Country whence Imported and to which Exported.	Merchandise Imported through United States.		Merchandise Exported through United States.	
	1930.	1931.	1930.	1931.
	\$	\$	\$	\$
Foreign Countries.				
Argentina.....	1,442,018	550,354	13,910,298	4,465,932
Austria.....	9,034	5,142	329,515	173,602
Belgium.....	157,684	57,839	1,042,085	403,940
Brazil.....	650,253	482,764	3,411,200	2,186,536
Central American States ²	10,495	7,560	510,256	346,320
Chile.....	6,623	6,374	2,131,348	780,681
China.....	609,439	2,902,509	1,464,034	359,208
Colombia.....	461,572	382,029	808,345	552,787
Cuba.....	908,773	1,000,213	1,472,115	1,172,413
Czechoslovakia.....	11,269	20,865	174,017	115,779
Denmark.....	3,767	9,919	2,497,603	2,284,103
Egypt.....	10,683	35,722	881,595	570,614
Finland.....	—	125	722,508	356,696
France.....	66,782	36,848	2,129,101	1,001,002
French Africa.....	56,702	78,428	581,899	375,184
French West Indies.....	—	—	122,249	128,432
Germany.....	680,931	364,784	4,063,709	1,960,114
Greece.....	108,475	46,982	1,080,468	182,953
Haiti.....	—	—	125,675	90,237
Italy.....	409,669	250,267	1,081,206	1,130,211
Japan.....	157,750	238,034	3,500,363	698,773
Mexico.....	278,727	371,131	2,406,202	1,988,487
Morocco.....	27,642	23,234	302,346	154,818
Netherlands.....	183,302	148,946	4,373,206	1,731,311
Dutch East Indies.....	212,724	147,705	2,230,717	921,120
Norway.....	6,460	486	1,176,765	405,979
Panama.....	—	—	832,864	375,765
Persia.....	48,690	22,793	148,928	67,367
Peru.....	—	—	1,498,611	504,905
Poland and Danzig.....	5,708	10,570	37,067	30,345
Porto Rico.....	2,761	203	72,778	128,106
Portugal.....	21,005	6,086	533,089	138,456
Portuguese Africa.....	—	—	601,316	448,174
Roumania.....	—	6,352	369,943	46,700
Russia.....	12,985	25,387	2,704,907	392,619
Santo Domingo.....	—	2,562	211,948	124,718
Siam.....	—	—	123,268	45,349
Spain.....	504,321	216,304	3,594,243	1,128,567
Sweden.....	65,089	27,731	1,429,232	604,381
Switzerland.....	69,137	55,069	404,789	162,232
Syria.....	2,097	5,721	237,320	75,308
Turkey.....	276,267	225,592	62,835	21,285
Uruguay.....	4,965	31,116	866,461	446,702
Venezuela.....	78,849	60,668	1,199,797	993,787
Totals, Foreign Countries¹.....	7,586,005	7,981,306	69,067,677	31,108,810
Grand Totals.....	9,849,889	8,952,204	205,163,730	123,735,068

¹ Totals include other countries not specified.

² Costa Rica, Guatemala, Honduras, Nicaragua and Salvador.

Subsection 10.—Comparison of the Volume of Imports and Exports.¹

The statistics of the external trade of Canada have not, until lately, been analysed in detail to reveal the physical volume of external trade as well as the dollar value of that trade, and have therefore been somewhat misleading when used to show the physical growth of production and external trade. When, for example, Table 1 of this chapter is examined, it seems to show stagnation in our external trade between the early 70's and the middle 90's of last century, and a very rapid growth thereafter. Yet we know that the apparent stagnation was partly due to the

¹ Further information as to the methods adopted in making the following analyses will be found on p. 758 of the Bureau's Annual Report on the Trade of Canada for the fiscal year ended March 31, 1931.

fall in general prices between the '70's and the middle '90's, while the rapid growth of the later figures is exaggerated by the rise of prices since 1897 and more particularly since 1914. Thus the figures as published give us no true measure of the *volume* of our external trade yet, of the commodities that satisfy human needs, it is the volume rather than the value with which the masses of the population are more intimately concerned. Volume is, from many points of view, a more important consideration than value, and it is desirable to secure a record of the fluctuations in the volume of the country's trade as distinguished from the value thereof. This is what is attempted in Table 22.

The method adopted for ascertaining the fluctuations in volume has been to take a base year—1926—and to re-value the quantities of each commodity imported or exported in any given year at the average import or export value of that commodity in the standard or base year. Where quantities are not available, the values of items are assumed to have moved in the same direction and in the same proportions as closely related commodities. For this reason the results must not be regarded as of great precision but, since the value of goods not returned by quantity, and of those not comparable over a limited series of years, is small in comparison with the total trade, the amount of error introduced on their account is not considerable. By this method it is comparatively easy to compare the volume of the trade in a particular year with that in a recent year and the margin of error is fairly small. When, however, a comparison of the volume of trade in a particular year with that of another year ten or more years before is undertaken, the margin of error is very much greater. Certain new commodities have come into existence in the course of the decade, while the qualities of others have been materially changed; further, various new items have been added to the customs classifications, and it is not always possible to say just what customs items of 1931 correspond with those of 1914. For these reasons comparisons with the pre-war fiscal year ended 1914 have been discontinued since 1929. The comparison for 1929 and certain previous years appeared on pp. 581-583 of the 1930 Year Book.

In Table 22 the values and volumes of imports and exports respectively for the years 1925, 1927, 1928, 1929, 1930 and 1931 are compared with 1926, for the main groups, as follows: the imports and exports are first shown at the values at which the trade was recorded. The same imports and exports are then shown at the value they would have amounted to if the average price or unit value had been the same in each year as it was in 1926. In other words, the figures on the basis of 1926 average values enable a comparison to be made of the imports or exports for the given years on the basis of variations in quantity only, variations due to different prices having been eliminated. Index numbers of declared values, that is, the total declared value of the imports or exports in each year expressed as a percentage of 1926 are then given. This is followed by the index numbers of average values, which show the prices at which goods were imported or exported in each year expressed as a percentage of the price in 1926. Finally, the index numbers of physical volume show the relative quantity of merchandise imported or exported in each year expressed as a percentage of the quantity of the same merchandise in 1926.

For an analysis in greater detail dealing similarly with sub-groups and principal commodities imported and exported, the reader is referred to pp. 758-771 of the Annual Report on the Trade of Canada for 1931, published by the Dominion Bureau of Statistics.

22.—Comparison of the Values and Volumes of the External Trade of Canada, by Main Groups, for the fiscal years ended Mar. 31, 1925-31.

IMPORTS FOR CONSUMPTION.

Main Group.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
Values as Declared. (In thousands of dollars.)							
Agricultural and Vegetable Products	173,586	203,417	213,098	238,186	233,130	227,049	177,629
Animals and Their Products	41,492	49,186	53,214	65,790	71,662	69,854	45,996
Fibres and Textiles	165,441	184,762	183,584	186,994	206,439	185,241	130,717
Wood and Paper	38,185	40,403	47,962	51,751	59,215	60,951	46,042
Iron and Its Products	134,684	181,197	229,429	259,575	346,616	316,879	194,888
Non-Ferrous Metals	41,112	47,693	52,748	60,190	75,438	87,950	59,623
Non-Metallic Minerals	131,013	139,034	156,785	153,409	166,964	186,496	153,579
Chemicals and Allied Products	24,760	28,404	31,845	33,572	37,723	39,908	35,651
Miscellaneous	46,659	53,233	62,227	59,849	68,492	73,946	62,488
Totals	796,932	927,329	1,030,892	1,108,956	1,265,679	1,248,274	906,613
On the Basis of 1926 Average Values. (In thousands of dollars.)							
Agricultural and Vegetable Products	181,231	203,417	229,314	257,896	289,030	294,204	266,924
Animals and Their Products	43,707	49,186	56,931	62,257	66,545	74,175	58,416
Fibres and Textiles	168,196	184,762	214,818	218,416	237,405	230,245	212,206
Wood and Paper	38,064	40,403	47,746	51,266	60,373	62,181	51,850
Iron and Its Products	126,550	181,197	240,441	271,057	362,535	314,905	196,743
Non-Ferrous Metals	43,610	47,693	53,431	59,483	77,662	86,075	69,360
Non-Metallic Minerals	132,377	139,034	158,909	171,982	195,930	226,542	187,682
Chemicals and Allied Products	24,413	28,404	32,723	34,096	38,656	41,030	40,035
Miscellaneous	47,099	53,233	66,217	64,349	75,720	84,259	73,304
Totals	805,247	927,329	1,100,530	1,190,802	1,403,856	1,413,646	1,156,520
Index Number of Declared Values. (1926=100.)							
Agricultural and Vegetable Products	85.3	100.0	104.8	117.1	114.6	111.6	87.3
Animals and Their Products	84.4	100.0	108.2	133.8	145.7	142.0	93.5
Fibres and Textiles	89.5	100.0	99.4	101.2	111.7	100.3	70.7
Wood and Paper	94.5	100.0	118.7	128.1	146.6	150.9	114.0
Iron and Its Products	74.3	100.0	126.6	143.3	191.3	174.9	107.6
Non-Ferrous Metals	86.2	100.0	110.6	126.2	158.2	184.4	125.0
Non-Metallic Minerals	94.2	100.0	112.8	110.1	120.1	134.1	110.5
Chemicals and Allied Products	87.2	100.0	112.1	118.2	132.8	140.5	125.5
Miscellaneous	87.6	100.0	116.9	112.4	128.7	138.9	117.4
Totals	85.9	100.0	111.2	119.6	136.5	135.6	97.8
Index Numbers of Average Values. (1926=100.)							
Agricultural and Vegetable Products	95.8	100.0	92.9	92.4	80.7	77.2	66.5
Animals and Their Products	94.9	100.0	93.5	105.7	107.7	94.2	78.7
Fibres and Textiles	98.4	100.0	85.5	85.6	87.0	80.5	64.6
Wood and Paper	100.3	100.0	100.5	100.9	98.1	98.0	88.8
Iron and Its Products	106.4	100.0	95.4	95.8	95.6	100.6	99.1
Non-Ferrous Metals	94.3	100.0	98.7	101.2	97.1	102.2	86.0
Non-Metallic Minerals	99.0	100.0	98.7	89.0	85.2	82.3	81.8
Chemicals and Allied Products	101.4	100.0	97.3	98.5	97.6	97.3	89.0
Miscellaneous	99.1	100.0	94.0	93.0	90.5	87.7	85.2
Totals	99.0	100.0	93.6	93.1	90.2	88.3	78.4
Index Numbers of Physical Volume. (1926=100.)							
Agricultural and Vegetable Products	89.1	100.0	112.7	126.8	142.1	144.6	131.2
Animals and Their Products	88.9	100.0	115.7	126.6	135.3	150.8	133.7
Fibres and Textiles	91.0	100.0	116.3	118.2	128.5	124.6	115.0
Wood and Paper	94.2	100.0	118.2	126.9	149.4	153.9	128.3
Iron and Its Products	69.9	100.0	132.7	149.6	200.1	173.8	108.6
Non-Ferrous Metals	91.4	100.0	112.0	124.7	162.8	180.5	145.4
Non-Metallic Minerals	95.2	100.0	114.3	123.7	140.9	162.9	135.0
Chemicals and Allied Products	85.9	100.0	115.2	120.0	136.1	144.5	140.9
Miscellaneous	88.5	100.0	124.4	120.9	142.2	158.3	137.7
Totals	86.8	100.0	118.7	128.4	151.4	152.4	124.7

22.—Comparison of the Values and Volumes of the External Trade of Canada, by Main Groups, for the fiscal years ended Mar. 31, 1925-31—concluded.

EXPORTS OF CANADIAN PRODUCE.

Main Group.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
Values as Declared.							
(In thousands of dollars.)							
Agricultural and Vegetable Products.	443,299	606,059	574,994	555,111	646,514	384,636	292,280
Animals and Their Products.....	163,031	190,976	167,292	165,845	158,757	133,009	83,715
Fibres and Textiles.....	9,712	8,940	7,666	10,904	9,678	9,066	6,504
Wood and Paper.....	253,610	278,675	284,120	284,543	288,622	289,567	230,514
Iron and Its Products.....	57,406	74,735	74,285	62,754	82,257	78,590	38,938
Non-Ferrous Metals.....	90,371	97,476	80,639	90,840	112,778	154,319	95,652
Non-Metallic Minerals.....	20,875	24,713	28,881	25,950	27,402	28,545	21,108
Chemicals and Allied Products.....	16,063	17,354	16,204	17,366	19,438	22,468	12,826
Miscellaneous.....	14,700	16,428	18,077	15,036	18,264	20,058	18,118
Totals.....	1,069,067	1,315,356	1,252,158	1,228,349	1,363,710	1,120,258	799,652
On the Basis of 1926 Average Values.							
(In thousands of dollars.)							
Agricultural and Vegetable Products.	484,426	606,059	590,468	602,371	781,889	452,780	487,385
Animals and Their Products.....	180,252	190,976	173,307	160,560	143,049	127,201	86,906
Fibres and Textiles.....	9,083	8,940	8,528	13,083	10,505	11,266	10,608
Wood and Paper.....	246,700	278,675	289,748	299,996	308,999	322,896	270,251
Iron and Its Products.....	56,298	74,735	74,794	61,319	99,877	91,513	59,256
Non-Ferrous Metals.....	92,018	97,476	82,452	103,167	133,037	163,535	118,576
Non-Metallic Minerals.....	20,504	24,713	28,657	25,439	26,638	33,515	22,521
Chemicals and Allied Products.....	15,594	17,354	17,143	20,333	23,824	29,838	17,571
Miscellaneous.....	15,485	16,428	18,588	16,017	20,760	22,952	24,197
Totals.....	1,120,360	1,315,356	1,283,685	1,302,285	1,548,578	1,255,496	1,097,271
Index Numbers of Declared Values.							
(1926=100.)							
Agricultural and Vegetable Products.	73.1	100.0	94.9	91.6	106.7	63.5	48.2
Animals and Their Products.....	85.4	100.0	87.6	86.8	83.1	69.7	43.8
Fibres and Textiles.....	108.6	100.0	85.7	122.0	108.3	101.4	72.8
Wood and Paper.....	91.0	100.0	102.0	102.1	103.6	103.9	82.7
Iron and Its Products.....	76.8	100.0	99.4	84.0	110.1	105.2	52.1
Non-Ferrous Metals.....	92.7	100.0	82.7	93.2	115.7	158.3	98.1
Non-Metallic Minerals.....	84.5	100.0	116.9	105.0	110.9	115.5	85.4
Chemicals and Allied Products.....	82.6	100.0	93.4	100.1	112.0	129.5	73.9
Miscellaneous.....	89.5	100.0	110.0	91.5	111.2	122.1	110.3
Totals.....	81.3	100.0	95.2	93.4	103.7	85.2	73.5
Index Numbers of Average Values.							
(1926=100.)							
Agricultural and Vegetable Products.	91.5	100.0	97.4	92.2	82.7	85.0	60.0
Animals and Their Products.....	90.4	100.0	96.5	103.3	111.0	104.6	96.3
Fibres and Textiles.....	106.9	100.0	89.9	83.3	92.1	80.5	61.3
Wood and Paper.....	102.8	100.0	98.1	94.8	93.4	89.7	85.3
Iron and Its Products.....	102.0	100.0	99.3	102.3	82.4	85.9	65.7
Non-Ferrous Metals.....	98.2	100.0	97.8	88.1	84.8	94.4	80.7
Non-Metallic Minerals.....	101.8	100.0	100.8	102.0	102.9	85.2	93.7
Chemicals and Allied Products.....	103.0	100.0	94.5	85.4	81.6	75.3	73.0
Miscellaneous.....	94.9	100.0	97.3	93.9	88.0	87.4	74.9
Totals.....	95.4	100.0	97.5	94.3	88.1	89.2	72.9
Index Numbers of Physical Volume.							
(1926=100.)							
Agricultural and Vegetable Products.	79.9	100.0	97.4	99.4	129.0	74.7	80.4
Animals and Their Products.....	94.4	100.0	90.7	84.1	74.9	66.6	45.5
Fibres and Textiles.....	101.6	100.0	95.4	146.3	117.5	126.0	118.7
Wood and Paper.....	88.6	100.0	104.0	107.7	110.9	115.9	97.0
Iron and Its Products.....	75.3	100.0	100.1	82.0	133.6	122.4	79.3
Non-Ferrous Metals.....	94.4	100.0	84.6	105.8	136.5	167.8	121.6
Non-Metallic Minerals.....	83.0	100.0	116.0	102.9	107.8	135.6	91.1
Chemicals and Allied Products.....	89.9	100.0	98.8	117.2	137.3	171.9	73.0
Miscellaneous.....	94.3	100.0	113.1	97.5	126.4	139.7	147.3
Totals.....	85.2	100.0	97.6	99.0	117.7	95.4	83.4

Section 4.—The Tourist Trade of Canada.¹

Tourist Expenditures in Canada.—In recent years the tourist trade has become an important source of revenue in certain sections of the Dominion, materially affecting the balance of trade. It represents the economic disposition of national assets in which Canada is particularly rich, namely: its picturesque scenery; its invigorating climate; its opportunities for hunting, fishing and boating, as well as for winter sports—for the exploitation of which a considerable capital expenditure has been made on hotel accommodation, improved highways and other attractions. The expenditure of travellers coming to Canada from other countries on business has the same effect, so far as its influence on the balance of trade is concerned, as the export of additional commodities would have. Indeed, in so far as commodities are sold to tourists travelling in the Dominion, our exportable surplus of such commodities is reduced.

It is impossible to obtain a direct record of expenditures of this kind. Moreover, even a rough estimate of the total is extremely difficult to make, visitors to Canada being of all classes, engaging in widely different activities or forms of recreation, remaining for varying periods, with expenditures undoubtedly ranging from very small to very large amounts.

The tourists who enter Canada may be divided into three classes: (a) those coming in *via* ocean ports; (b) those entering from the United States in automobiles; (c) those entering from the United States by rail or steamer. In 1931 these classes are estimated, according to recently revised figures, to have expended in Canada \$12,018,000, \$188,129,000 and about \$50,629,000 respectively, or a grand total of approximately \$250,776,000.

The Department of National Revenue records the number of tourists entering Canada in automobiles from the United States through each of the ports of entry along the border. Estimating the expenditure of this class of tourist according to the provinces by which they entered, gives the following provincial distribution of their expenditure in 1931: Maritime Provinces, \$8,876,000; Quebec, \$43,781,000; Ontario, \$118,703,000; Manitoba, \$1,812,000; Saskatchewan, \$713,000; Alberta, \$840,000 and British Columbia, \$13,404,000.

On the basis of information collected from Canadian hotels, the following estimates were made of the expenditure of tourists from other countries for hotel accommodation in each of the provinces of Canada during 1930: Prince Edward Island, \$40,000; Nova Scotia, \$864,000; New Brunswick, \$590,000; Quebec, \$8,657,000; Ontario, \$9,905,000; Manitoba, \$473,000; Saskatchewan, \$190,000; Alberta \$1,270,000 and British Columbia, \$1,437,000, making a total for Canada of \$23,426,000. The total for Canada in 1929 was estimated at \$24,499,000. These figures do not include expenditures in tourist camps or private dwellings providing tourist accommodation, although these facilities divert a good deal of tourist trade from the hotels.

Expenditures of Canadian Tourists Abroad.—Canadian tourists visiting other countries travel in the main to the British Isles and other European countries on visits home, or as sight-seers. Again, many of them, especially elderly or delicate persons, go to Florida, Bermuda or the West Indies. These tourists may be classified in the same three classes as those entering Canada. The first class leaving Canada by ocean ports is estimated to have spent \$19,550,000 abroad in

¹Abridged from studies of "The Tourist Trade in Canada, 1920-1926", and for 1927, 1928, 1929 and 1930, published by the Bureau of Statistics and obtainable on application. These studies contain a full explanation of the methods used in making the estimates.

1931, while those visiting the United States by automobile expended an estimated amount of \$40,264,000, and those visiting the United States by rail or steamer, approximately \$16,638,000, or a grand total in 1931 of \$76,452,000.

Summary.—For the years 1920 to 1931 the total expenditures of tourists from other countries in Canada, as compared with the expenditures of Canadian tourists in other countries, are estimated as follows:—

Year.	Estimated Expenditure of Tourists from Other Countries in Canada.	Estimated Expenditure of Canadian Tourists in Other Countries.	Estimated Excess of Expenditure of Tourists from Other Countries.
	\$	\$	\$
1920.....	83,734,000	-	-
1921.....	86,394,000	-	-
1922.....	91,686,000	-	-
1923.....	130,977,000	-	-
1924.....	173,002,000	84,973,000	88,029,000
1925.....	193,174,000	85,160,000	107,014,000
1926.....	201,167,000	98,747,000	102,420,000
1927.....	238,477,000	108,750,000	129,727,000
1928.....	275,230,000	107,522,000	167,708,000
1929.....	309,379,000	121,645,000	187,734,000
1930.....	279,238,000	100,389,000	178,849,000
1931.....	250,776,000	76,452,000	174,324,000

It will be noticed that, while there has been a steady increase in the amount spent by tourists from other countries in Canada, the amount spent by Canadians in other countries has also tended to increase. The "favourable" balance accruing from tourist trade grew rapidly in the post-war period to 1929 and has not declined in proportion to commodity trade for the latest two years. The statistics demonstrate how valuable an asset to Canada is her tourist trade, the expenditures of tourists in Canada in 1931 constituting an "invisible" export of greater value than any single commodity exported in the calendar year 1931. If the "invisible" import of expenditure of Canadian tourists in other countries is deducted, the balance still represents an item not exceeded by any other single export. The further increase of this item in the trade balance depends not only on additional numbers of tourists from other countries, but also on the extent to which Canadians "see Canada first" when they decide to travel.

Section 5.—Balance of International Payments 1920-30.¹

In recent years much attention has been devoted by economists to the consideration of the balance of international payments, as distinguished from the balance of commodities imported and exported. The balance of international payments is much the wider term. Thus in 1928 Canada's international buying and

¹Taken from the annual press letter, "Estimated Balance of International Payments for Canada", by Herbert Marshall, B.A., F.S.S., Chief of the Internal Trade Branch of the Dominion Bureau of Statistics, including explanatory data on the methods followed in computing these statistics

selling of commodities and services amounted to over \$4 billions as compared with \$2½ billions for the foreign trade in commodities alone, which means that the so-called "invisible" items of our international business accounted for nearly 40 p.c. of the aggregate for all items. Included in these "invisible" items are: tourist expenditures, dealt with in the preceding section; receipts and payments of interest; receipts and payments in freight charges, in remittances of immigrants and emigrants, in charitable and missionary contributions, etc.; and, as a supplementary item evening up accounts, the borrowings and lendings of capital. Many of these items can be only approximately estimated, especially for a country like Canada, lying along a frontier of some 4,000 miles with the United States, with business relationships and family relationships very closely knit together.

Nevertheless, it has been considered well worth while to make as close an estimate as possible of the balance of the international payments of the Dominion for 1920 and subsequent years, and the figures for the years 1927 to 1930 are presented in Table 23. It is expected that with greater experience the technique may be improved, and the margin of error reduced to the minimum.

In 1920 the Dominion's complete international transactions showed an excess of imports estimated at \$268 millions, while in 1921 and 1922 the excesses on the same side were \$137 millions and \$68 millions respectively. (A chief reason for the "adverse" balance in these years was that we were then being repaid amounts advanced to the United Kingdom during the war, there being a net withdrawal from the United Kingdom of \$104 millions in 1920, \$128 millions in 1921 and \$84 millions in 1922.)

In 1923 there was a change, with a surplus of \$45 millions shown on the export side, in spite of further repayments of \$52 millions by the United Kingdom. The surplus was \$108 millions in 1924, \$277 millions in 1925, \$228 millions in 1926, \$137 millions in 1927 and \$201 millions in 1928. In these years Canadian insurance companies were purchasing large amounts of foreign securities, Canadians were making additional further direct investments, principally in South America and the United States, and we were buying back from abroad our own securities or purchasing foreign securities, principally on the New York stock exchange. In addition, the Canadian banks increased very largely the sums of money they had abroad on call.

These exports were the result of abundant funds accumulating in the Dominion owing to three causes. In the first place there had come into the country during the war about \$1,250 millions through the purchase of our commodities at high prices; this was seeking an investment outlet. In the second place, the large investment of United States capital in the Dominion from 1914 to 1920 was now increasing the nation's output. In the third place, successive large harvests were a foundation of prosperity. These factors combined, caused an unprecedented

accumulation of savings, which was used by financial institutions and individuals not only to finance domestic capital needs, but also to avail themselves of opportunities for profitable investment abroad. The prolonged and extravagant 'bull' market in the New York and other United States' stock exchanges culminating in the early summer of 1929 and the high interest rates prevailing in those markets attracted enormous sums to the United States from other countries, including Canada. Thus from 1923 to 1928 we had on balance an export of capital to our credit, though at the same time other countries, particularly the United States, continued to invest large sums in the Dominion. The years 1929 and 1930 appear to have shown a reversal of the net outward capital movement which was characteristic of Canadian international transactions for the previous few years.

In 1930, as in 1929, our international accounts appear to have been brought into balance by an inflow of capital arising from loans floated abroad or by the investments of other countries in Canadian enterprises. In 1929 the difference between the debit and credit items of the national balance sheet amounted to \$65 millions and in 1930, \$160 millions. Among the international transactions of 1930 (consisting of visible and invisible items) shown in the balance sheet, the chief credit item was tourist traffic showing a favourable balance of \$166 millions. Commodity trade revealed a debit balance of roughly \$100 millions, gold movement \$14 millions, freight payments \$32 millions and interest payments \$184 millions. Comparison of data for 1929 and 1930, item by item, throws a clear light on the great changes wrought in Canada's international transactions in goods and services by the world depression which began at the end of 1929, and by the difficulties involved in the marketing of wheat. Merchandise exports fell 28.6 p.c. from \$1,200 millions in 1929 to \$905 millions in 1930. Though the wheat situation partly explained this drop, it was also largely accounted for by lower general price levels in 1930 as compared with 1929. In fact, at 1929 prices, volume of exports declined by only 13.3 p.c. A good illustration of the difficulties presented to Canada by the slump in world prices is provided by the table in the Prices Chapter showing index numbers of export and import valuations. This shows that Canada experienced a much greater reduction in the prices of her export commodities than the compensating decline in the price of goods which are normally imported, the index number of exports dropping from 147.0 in 1926 and 136.9 in 1929 to 117.2 in 1930, while the index number for imports dropped only from 131.7 in 1926 and 122.9 in 1929 to 115.1 in 1930.

Tourist traffic, though showing a large credit balance, was \$22 millions below that of 1929. Interest payments, due to increased foreign investment in Canada, were higher by \$13 millions. Freight payments were less unfavourable by \$13 millions because of disproportionate reduction of imports. Earnings of Canadians who work in the United States declined by \$10 millions. Finally, the international gold movement showed a reversal of \$61 millions, a net export of \$47 millions in 1929 becoming a net import of \$14 millions in 1930. This latter movement is partly accounted for by the repatriation of short term funds from New York which is known to have taken place in large amounts after the market crash had been followed by a reduction in call loan rates. In conclusion it may be said that during the last two years Canada's transition from a favourable to an unfavourable balance in the international exchange of goods and services appears to have been considerably smoothed by the repatriation of short term investments abroad and the continued inflow of foreign investments.

23.—Estimated Balance of International Payments, 1927 to 1930.

NOTE.—Corresponding figures for 1920-26 are given at pp. 601-602 of the 1929 Year Book, although these have since been somewhat revised in later estimates.

Item.	1927.		1928.		1929.		1930.	
	Exports, Visible and Invis- ible.	Imports, Visible and Invis- ible.	Exports, Visible and Invis- ible.	Imports, Visible and Invis- ible.	Exports, Visible and Invis- ible.	Imports, Visible and Invis- ible.	Exports, Visible and Invis- ible.	Imports, Visible and Invis- ible.
	000 \$	000 \$	000 \$	000 \$	000 \$	000 \$	000 \$	000 \$
Commodity Trade—Recorded merchandise exports and imports.....	1,238,782	1,087,118	1,374,246	1,222,318	1,208,338	1,298,993	905,370	1,008,479
Deductions for settlers' effects and other non-commercial imports.....	-11,020	-22,504	-10,926	-21,395	-11,679	-24,614	-10,957	-23,814
Unrecorded imports of ships.....	-	1,860	-	19,230	-	19,420	-	7,470
Real Totals, Commodity Trade.....	1,227,762	1,066,474	1,363,320	1,220,153	1,196,659	1,293,799	894,413	992,135
Exports and imports of gold coin, bullion and subsidiary coin.....	64,231	81,257	107,614	39,659	50,598	3,746	25,343	39,062
Freight payments and receipts, n.o.p.....	89,826	109,140	88,266	115,433	85,541	130,855	68,815	100,908
Tourist expenditures.....	238,477	108,750	275,230	107,522	309,379	121,645	279,238	113,292
Interest payments and receipts.....	64,885	235,052	80,966	246,916	87,886	258,907	88,220	272,586
Immigrant remittances....	15,433	22,423	14,421	23,195	14,036	23,385	14,000	23,000
Government expenditures and receipts.....	11,850	11,751	11,819	11,030	11,750	11,300	11,750	10,379
Government receipts, reparations.....	6,791	-	4,688	-	4,325	-	4,000	-
Charitable and missionary contributions.....	873	1,766	1,373	1,800	900	1,800	900	1,800
Insurance transactions....	19,194	29,486	35,761	28,790	31,990	24,418	29,483	22,138
Advertising transactions...	4,482	4,800	3,858	5,000	4,000	5,280	4,000	6,000
Motion picture royalties...	-	3,500	-	3,750	-	3,750	-	3,750
Capital of immigrants and emigrants.....	14,545	12,611	14,783	11,178	14,117	11,496	11,083	9,424
Earnings of Canadian residents employed in U.S.A.....	11,000	-	13,725	-	13,725	-	3,696	-
Exports and imports of electrical energy ¹	4,798	87	-	-	-	-	-	-
Difference between all Exports and Imports ² ..	-	137,050	-	201,398	65,475	-	159,533	-
Totals.....	1,774,147	1,774,147	2,015,824	2,015,824	1,890,381	1,890,381	1,594,474	1,594,474

¹Included in Commodity Trade since 1927. ²This item represents (a) Canadian capital invested abroad in 1927 and 1928, and foreign capital invested in Canada in 1929 and 1930, and (b) errors and omissions.

CHAPTER XVII.—INTERNAL TRADE.

This treatment of trade within the Dominion commences with a general statement on interprovincial trade. This is followed by sections dealing with the statistics of the grain trade and of the marketing of live stock and animal products. Statistics of cold storage facilities and of commodities in cold storage are next in order. In the latter part of the chapter will be found sections relating to various administrative services connected with trade, including: the payment of bounties; the granting of patents, copyrights and trade marks; and weights and measures electricity and gas inspection. The concluding section of the chapter deals with the statistics of wholesale and retail merchandising.

Section 1.—Interprovincial Trade.¹

Canada may be divided into the following five economic regions, each deriving its specific character from the predominant occupations of its people:—

1. *The Eastern Fishing, Lumbering and Mining Region*, comprising the river valley and gulf of the St. Lawrence, together with the Atlantic coast; in other words, the greater part of the Maritime Provinces, the northern part of the province of Quebec (excluding the former district of Ungava), and a portion of northern Ontario.

2. *The Eastern Agricultural and Industrial Region*, comprising the cultivated portions of the Maritime Provinces and of the provinces of Quebec and Ontario. In the latter provinces the cultivated areas extend along the banks of the St. Lawrence, and along the valleys of its tributaries within the Canadian borders.

3. *The Central Agricultural Region*, extending from the Red River valley to the Rocky mountains and from the Canadian-United States boundary to about 56° N. lat.

4. *The Western Fishing, Mining and Lumbering Region*, comprising the western portion of the province of Alberta, the whole of British Columbia and the southern portion of the Yukon Territory.

5. *The Northern Fishing and Hunting Region*, extending from the regions of permanent settlement northwards to the Arctic Circle and from the coast of Labrador to the Pacific and to the Alaskan boundary. This vast region is sparsely inhabited by indigenous nomadic tribes engaged in fishing and hunting for their own support, for exchange with the fur-trading companies, and with individual whalers and traders who visit some parts of the region.

Great differences exist between the products of these various regions; even the fisheries and lumber products of the east are quite distinct from those of

¹ Revised by G. S. Wrong, B.Sc., Chief of the Transportation Branch, Dominion Bureau of Statistics.

British Columbia. The needs of the people throughout the country are met to a great extent by the exchange of the products of one region for those of another.

Interprovincial trade in Canada had its beginning, many years before Confederation, in the exchange of the furs and lumber products of Quebec and Ontario for the fisheries and mineral products of the Maritimes. Indeed, it was thought at the time of Confederation that the coal fields of Nova Scotia would furnish sufficient fuel for the needs of all the eastern part of the Dominion. Later, manufacturers of Ontario and Quebec found markets from one end of the Dominion to the other, in exchange for the farm, mineral and other products required by large urban communities and produced principally in western and northern regions.

Thus, while many of the small communities and areas, like the primitive agriculturist, produce only for their own needs and are economically independent, the principle of comparative advantage is seen in the increased trade between the economic regions of the Dominion, a trade which is principally carried on over the railways of the country, but also largely over its waterways. A comparatively new development is the inauguration of sea transport between Eastern Canada and British Columbia *via* the Panama Canal. (See pp. 585-6.)

A monthly traffic report of the railways of Canada is published by the Transportation Branch of the Dominion Bureau of Statistics, and shows, for each province and for the Dominion as a whole, the total *revenue* freight traffic of all railways (not the "on company service" freight), divided into 70 classes of commodities. The data also show the quantity of each class that originated and terminated in each province. The reports are of use in computing the imports and exports of each province for each of the 70 classes of commodities. For example, if the total tonnage unloaded in Alberta during 1929, as shown in Table 1, is deducted from the tonnage originating in Alberta over the same period, the remainder of 4,537,453 tons represents the net exports from Alberta for the year 1930. The comparative figure for 1929 was 4,930,569 tons. These statistics show rail traffic only, a limitation which should be borne in mind in connection with the trade of provinces having water transportation.

The total revenue freight traffic movement on the steam railways of Canada fluctuates to a certain extent with the yield of the crops and with activity in the mining and construction industries involving heavy movements of low grade freight. The general trend from 1921 to 1928 was upward, increasing from 83,814,436 tons of freight carried in 1921 to 119,227,758 tons in 1928. In 1929, however, a decrease to 114,600,778 tons and in 1930 a further decrease to 95,833,228 tons was reported.

Statements similar to that in Table 1 may be compiled for any of the 70 commodities for which statistics are collected, showing the interprovincial trade by rail in these commodities. For details see "Summary of Monthly Traffic Reports of the Railways of Canada, 1930", obtainable from the Dominion Bureau of Statistics.

1.—Railway Revenue Freight Traffic Movement in Canada and the Provinces, for the calendar years 1929 and 1930.

Province.	Originating in Canada or Specified Province.		Received from Foreign Connections.		Total Freight Carried.	
	1929.	1930.	1929.	1930.	1929.	1930.
	tons.	tons.	tons.	tons.	tons.	tons.
Prince Edward Island.....	265,881	293,392	31	—	265,912	293,392
Nova Scotia.....	8,139,341	7,336,136	123,052	106,720	8,262,393	7,442,856
New Brunswick.....	2,341,755	2,371,566	735,749	722,418	3,077,504	3,093,984
Quebec.....	13,149,072	9,862,885	5,107,263	3,823,958	18,256,335	13,686,843
Ontario.....	24,349,436	20,077,222	29,779,932	23,880,965	54,129,368	43,958,187
Manitoba.....	5,282,661	4,925,274	361,207	251,874	5,643,868	5,177,148
Saskatchewan.....	6,408,854	6,664,711	579,246	439,092	7,048,100	7,103,803
Alberta.....	9,834,364	8,657,966	246,285	257,857	10,080,649	8,915,823
British Columbia.....	7,298,368	5,782,592	538,281	378,600	7,836,649	6,161,192
Totals.....	77,129,732	65,971,744	37,471,046	29,861,484	114,600,778	95,833,228

Province.	Terminating in Canada or Specified Province.		Delivered to Foreign Connections.		Total Freight Terminating.	
	1929.	1930.	1929.	1930.	1929.	1930.
	tons.	tons.	tons.	tons.	tons.	tons.
Prince Edward Island.....	304,056	373,065	3,378	50,903	307,434	423,968
Nova Scotia.....	7,276,511	6,354,630	518,674	387,657	7,795,185	6,742,287
New Brunswick.....	2,120,536	2,132,960	1,790,582	1,281,364	3,911,118	3,414,324
Quebec.....	14,257,619	10,669,527	7,006,415	5,075,199	21,264,034	15,744,726
Ontario.....	35,384,995	29,953,593	21,311,306	17,700,679	56,696,301	47,654,272
Manitoba.....	5,533,497	4,675,104	246,641	205,818	5,780,138	4,880,922
Saskatchewan.....	4,889,721	4,433,234	528,862	442,083	5,418,583	4,875,317
Alberta.....	4,903,795	4,120,513	3,127	8,554	4,906,922	4,129,067
British Columbia.....	5,575,540	4,449,989	3,751,306	2,920,758	9,326,846	7,370,747
Totals.....	80,346,276	67,162,615	35,160,291	23,073,015	115,406,561	95,235,630

Section 2.—Grain Trade Statistics.¹

The Canada Year Book, 1922-23, contained on pp. 581-3, an historical summary of the more important points respecting the shipment, inspection and sale of Canadian grain under the Canada Grain Act, and an outline of the Canada Grain Act of 1925 appeared at p. 1017 of the 1925 Year Book. The 1929 amendments were dealt with at pp. 1047-8 of the 1930 Year Book, and the Canada Grain Act, 1930 at p. 1101 of the 1931 Year Book.

Movement of Canadian Wheat, Crop Year 1929-1930.²—A résumé of the Canadian wheat movement naturally begins with a description of the crop of the Western Inspection Division. The wheat crop of 1929 marketed in the Western Division during the crop year from Aug. 1, 1929, to July 31, 1930, amounted to 283.0 million bushels. A carry-over of 79.2 million bushels from the previous crop year, together with some minor items, brought the stock of the Western Division to a total for the year of 363.0 million bushels (see the chart on page 505 for particulars). As for distribution, 212.3 million bushels were commercially disposed of, the chief items of which were 94 million bushels exported to the United Kingdom and 70 million bushels shipped to the Eastern Division. The direct exports to the United States were 7 million bushels and to other countries 24 million bushels. The total shipments from the Western Division were thus 194.3 million bushels. The wheat used by the milling companies for the manufacture of flour amounted to about 18 million bushels, of which 12.3 million bushels were ground into flour for domestic consumption. The all-rail movement eastward from the Western

¹ Revised by Dr. T. W. Grindley, Chief, Agricultural Branch, Dominion Bureau of Statistics.

² For further information see the "Report on the Grain Trade of Canada", issued annually by the Agricultural Branch of the Dominion Bureau of Statistics.

Division, including shipments to the Ogilvie Flour Mills Co. at Fort William for grindings, was 734 thousand bushels. Lake shipments from Fort William and Port Arthur were 144.3 million bushels, 68.9 million bushels going to Canadian ports and 75.4 million to United States ports. The shipments to Canadian and American ports represented, respectively, decreases of 49.4 p.c. and 51.8 p.c. from 1928-29. The principal Canadian lake ports were those of lake Huron and Georgian bay, with receipts of 23.2 million bushels, and Port Colborne with 33.4 million bushels. Among the United States lake ports Buffalo was of chief importance in the handling of Canadian wheat, with receipts by water from Port Arthur and Fort William of 70.9 million bushels. The export of wheat through Vancouver was 48.9 million bushels, as compared with 95 million in the previous crop year, and 272,533 bushels were exported through Prince Rupert. The seed requirements were estimated at 42 million bushels, and the stocks at the end of the crop year were 85 million bushels.

The Eastern Division received during the crop year not only the eastern crop, estimated at 21.4 million bushels, but also shipments from the West aggregating 69.5 million bushels. The quantity on hand at the beginning of the crop year was 25.2 million bushels, making, with a comparatively small importation from the United States, a total stock entering the Eastern Division of 116.8 million bushels. The distribution included 26.1 million bushels carried over in store into the following year, 25.4 million bushels exported from the St. Lawrence ports, and 29.7 million bushels shipped through the winter ports of Saint John and Halifax. In addition, 54.8 million bushels were cleared for export to the United Kingdom and other countries *via* the United States Atlantic ports. The chief ports concerned with the movement of Canadian grain from both Divisions were New York, with shipments of 46.3 million bushels, Baltimore with 4 million, and Philadelphia with 2.7 million.

Total exports from Canada to the United States for consumption amounted to 7.3 million bushels, to the United Kingdom 105 million bushels, to other countries 43.4 million bushels; 93.1 million bushels were shown to be shipped *via* Canadian ports and 55.2 million bushels *via* United States ports, after deducting 14.2 million bushels transhipped from Buffalo to Montreal and adding the same to the Canadian movement. Total exports of wheat from Canada during the crop year amounted to 155.7 million bushels.

Table 3 shows for the licence years 1930 and 1931 the number of railway stations at which elevators are placed, the number of elevators and their total storage capacity, the figures being given by provinces for each class of elevator, with a summary showing the total of all elevators for each province. The growth of Canadian elevators in number and capacity has accompanied the expansion of grain acreage in the present century. Canadian elevators in 1901 numbered 426 with a capacity of 18,329,352 bushels; in 1911 these had increased to 1,909 elevators and 105,462,700 bushels; and totals of 3,855 elevators and 231,213,620 bushels were reached in 1921. Further increases in the last few years have resulted in a total of 5,872 elevators with a capacity of 414,660,260 bushels in 1931.

Table 4 gives summary statistics of the inspections of grain for 1925-30, detailed statistics given in previous Year Books being omitted to save space. The latter may be found in the Reports on the Grain Trade of Canada. Tables 5 and 6 show the shipments of grain by vessel and rail for 1929 and 1930.

Tables 7 and 8 deal with the Canadian grain handled in recent years at Eastern elevators.

2.—Summary of the Distribution of Grain in Canada during the crop year ended July 31, 1930.

Item.	Wheat.	Oats.	Barley.	Flax.	Rye.
	bush.	bush.	bush.	bush.	bush.
1. On Hand, August 1, 1929—					
In farmers' hands.....	5,617,400	26,478,000	3,190,400	5,200	93,400
In Eastern elevators.....	20,369,859	4,487,037	1,913,220	17,624	1,265,950
In country, private and manufacturing elevators, Western Division.....	6,324,788	3,016,588	1,177,615	73,554	171,695
In interior elevators, Western Division.....	3,576,643	300,974	9,767	692	954
In Vancouver elevators.....	5,123,272	108,314	16,428	—	—
In Prince Rupert elevators.....	47,172	—	—	—	—
In public and private terminals, Western Division.....	47,140,030	8,026,924	4,112,940	337,511	1,971,302
In Duluth-Superior.....	58,000	16,910	6,000	37,206	23,000
Afloat for unloading at Canadian ports.....	3,363,869	716,910	241,952	57,000	180,704
In flour mills.....	7,456,894	1,215,228	48,084	—	—
In transit.....	5,305,294	798,613	304,451	32,700	532,751
Totals.....	104,383,221	45,165,498	11,020,857	561,487	4,219,756
2. Crop, 1929.....	304,520,000	282,838,300	102,313,300	2,060,400	13,160,500
3. Shipped In—					
From U.S.A. and other countries.....	1,386,291	3,775,694	16,902	1,625,015	268,865
4. Total annual stocks (sum of 1, 2 and 3)	410,289,512	331,779,492	113,351,059	4,246,902	17,649,121
5. Shipped Out—					
To U.S.A.....	7,306,166	403,672	88,324	412,162	85
To United Kingdom via Canadian and U.S.A. ports.....	105,007,552	434,664	2,252,674	2,937	181,027
To other countries via Canadian and U.S.A. ports.....	43,452,388	1,161,945	263,614	—	166,677
Totals.....	155,766,106	2,000,281	2,604,612	415,099	347,789
6. Milled consumption.....	43,439,000	8,046,004	—	—	19,523
Milled export.....	30,501,103	2,169,194	1,499,484	2,589,605	29
Consumed in malting and brewing establishments.....	—	—	4,863,311	—	—
7. Totals disposed of commercially (sum of 5 and 6).....	229,706,209	12,215,479	8,967,407	3,004,704	367,341
8. Used for seed.....	43,671,326	33,146,750	11,117,400	290,900	2,172,075
9. In Store, July 31, 1930—					
In farmers' hands.....	5,326,000	12,020,000	3,050,000	3,600	166,000
In Eastern elevators.....	21,374,632	2,785,443	1,856,514	—	1,561,892
In country, private and manufacturing elevators, Western Division.....	16,820,322	2,581,324	2,671,951	48,853	543,093
In interior terminals, Western Division.....	2,808,006	188,495	23,218	1,082	16,296
In Vancouver elevators.....	7,652,353	65,453	11,016	52	25,314
In Victoria and Prince Rupert elevators.....	891,623	284	94	—	—
In public and private terminals, Western Division.....	36,512,417	1,543,696	13,708,606	387,515	5,375,258
In Duluth-Superior.....	28,000	5,000	75,900	98,246	—
Afloat for unloading at Canadian ports.....	7,358,498	295,916	776,529	59,600	419,583
In flour mills.....	6,902,393	1,471,070	94,882	—	1,646
In transit.....	5,420,668	626,099	606,722	37,710	1,081,623
Totals.....	111,094,912	21,582,780	22,875,432	636,658	9,190,705
10. Totals accounted for (sum 7, 8 and 9).....	384,372,447	66,945,009	42,960,239	3,932,262	11,730,121
11. Losses in cleaning.....	6,729,892	113,135	378,559	222,935	307,955
12. Grain not merchantable.....	7,172,000	23,866,300	6,878,300	110,400	445,500
13. Balance, merchantable grain fed on farms or otherwise consumed in and moved out of Canada through other channels.....	12,015,173	240,855,048	63,133,961	—18,695	5,165,545
14. Totals (sum 10 to 13).....	410,289,512	331,779,492	113,351,059	4,246,902	17,649,121
15. Amounts inspected.....	229,485,538	17,430,281	22,880,000	1,540,000	6,127,656
16. Per cent of crops inspected.....	75.3	6.2	22.4	74.7	46.6
17. Per cent of commercial grain inspected (line 15 of 10).....	59.7	26.0	53.3	39.2	52.2
18. Commercial grain from season's crop (9 and 7—1—3).....	235,031,609	—15,142,933	20,805,080	1,454,860	5,069,425
19. Per cent of crops commercial grain (line 18 of 2).....	77.2	—	20.3	70.6	38.5
20. Values of crops.....\$	319,715,000	168,017,000	60,505,000	4,898,000	11,095,000

3.—Number and Storage Capacity of Canadian Grain Elevators in the licence years 1930 and 1931.

NOTE.—Detailed statistics of elevators for the years 1901 to 1918 are given in the 1921 Year Book, pp. 507-509, and the figures for 1919 to 1924 will be found in the 1924 Year Book, pp. 549-550. For 1925 and 1926 see p. 616 of the 1927-28 Year Book, for 1927 and 1928 see p. 609 of the 1929 Year Book and for 1929, p. 624 of the 1931 Year Book.

Divisions, Elevators and Provinces.	1930.			1931.		
	Stations. ¹	Elevators.	Capacity.	Stations. ¹	Elevators.	Capacity.
WESTERN DIVISION.	No.	No.	bush.	No.	No.	bush.
Country Elevators—						
Manitoba.....	383	743	24,130,400	373	739	23,751,500
Saskatchewan.....	1,067	3,198	104,006,050	1,080	3,237	103,855,400
Alberta.....	569	1,707	64,647,000	580	1,748	65,344,200
British Columbia.....	2	2	35,000	4	9	337,000
Ontario.....	(1)	1	40,000	1	1	40,000
Totals, Country Elevators..	2,021	5,651	192,858,450	2,038	5,734	193,328,100
Manufacturing Elevators²—						
Manitoba.....	1 (2)	5	1,362,000	(2)	4	170,000
Saskatchewan.....	1 (3)	3	58,000	1 (3)	4	84,000
Alberta.....	2	3	710,000	(3)	3	82,000
British Columbia.....	2	11	826,000	2	11	826,000
Ontario.....	(1)	2	195,000	1	1	185,000
Totals, Manufacturing Elevators.....	6	24	3,151,000	4 (8)	23	1,347,000
Public Terminal Elevators—						
Saskatchewan.....	(2)	2	7,000,000	(2)	2	11,000,000
Alberta.....	(2)	2	5,000,000	(2)	2	5,000,000
British Columbia.....	1 (2)	2	3,100,000	(2)	2	2,000,000
Ontario.....	(2)	5	29,867,210	(2)	2	9,000,000
Totals, Public Terminal Elevators.....	1	11	44,967,210	(8)	8	27,000,000
Semi-Public Terminal—						
Ontario.....	—	—	—	(2)	26	83,657,210
British Columbia.....	—	—	—	2 (1)	8	17,200,000
Totals, Semi-Public Terminal.....	—	—	—	2 (3)	34	100,857,210
Private Elevators—						
Manitoba.....	3 (5)	14	4,070,000	3 (2)	14	5,247,450
Saskatchewan.....	1 (3)	4	4,310,550	(3)	6	4,585,500
Alberta.....	(3)	15	3,603,000	(3)	16	4,118,000
British Columbia.....	1 (3)	10	14,492,000	(1)	1	2,000,000
Ontario.....	4	30	58,630,000	2 (2)	7	1,940,000
Totals, Private Elevators...	9	73	85,105,550	5 (11)	44	16,090,950
Totals—Western Division...	2,037	5,759	326,082,210	2,049	5,843	338,623,260
EASTERN DIVISION.						
Eastern Elevators—						
Ontario.....	11	16	41,900,000	11	18	49,850,000
Quebec.....	3	8	22,312,000	3	7	21,787,000
New Brunswick.....	2	3	2,200,000	2	3	2,200,000
Nova Scotia.....	1	1	2,100,000	1	1	2,200,000
Totals—Eastern Division...	17	28	68,512,000	17	29	76,037,000
Grand Totals for Canada.....	2,054	5,787	394,594,210	2,066	5,872	414,660,260
SUMMARY BY PROVINCES.						
Nova Scotia.....	1	1	2,100,000	1	1	2,200,000
New Brunswick.....	2	3	2,200,000	2	3	2,200,000
Quebec.....	3	8	22,312,000	3	7	21,787,000
Ontario.....	15	54	130,632,210	15	55	144,672,210
Manitoba.....	387	762	29,562,400	376	757	29,168,950
Saskatchewan.....	1,069	3,207	115,374,600	1,081	3,249	119,524,900
Alberta.....	571	1,727	73,960,000	580	1,769	74,544,200
British Columbia.....	6	25	18,453,000	8	31	20,563,000

¹ The figures in parentheses refer to stations which are duplicated elsewhere and are not included in the totals.

² Mill elevators in 1931 replaced manufacturing elevators.

1.—Quantities of Canadian Grain Inspected during the crop years ended July 31, 1925-30.

Grain.	1924-25.			1925-26.		
	Western Division.	Eastern Division.	Total.	Western Division.	Eastern Division.	Total.
	bush.	bush.	bush.	bush.	bush.	bush.
Spring wheat.....	214,368,670	465,627	214,834,297	352,509,780	2,302,172	354,811,952
Winter wheat.....	21,040	1,292,687	1,313,677	25,460	877,184	902,644
Totals, wheat.....	214,389,710	1,758,264	216,147,974	352,535,240	3,179,356	355,714,596
Oats.....	49,952,025	1,972,333	51,924,358	53,693,705	2,864,925	56,558,630
Barley.....	31,899,420	718,776	32,618,196	41,991,000	731,082	42,722,082
Flax.....	8,347,925	—	8,347,925	5,865,200	—	5,865,200
Rye.....	5,565,440	171,115	5,736,555	5,471,530	136,294	5,607,824
Corn.....	2,000	16,291	18,291	5,000	5,387	10,387
Buckwheat.....	50,000	1,093,121	1,143,121	29,000	301,290	330,290
Peas.....	—	24,328	24,328	—	92,283	92,283
Speltz.....	8,000	—	8,000	6,000	—	6,000
Screenings.....	213,000	—	213,000	89,000	—	89,000
Mixed grains.....	432,000	—	432,000	1,068,000	—	1,068,000
Totals, Grain.....	310,859,520	5,754,228	316,613,748	460,753,675	7,310,617	468,064,292

Grain.	1926-27.			1927-28.		
	bush.	bush.	bush.	bush.	bush.	bush.
Spring wheat.....	335,994,825	272,832	336,267,657	396,851,400	12,889,583	409,740,983
Winter wheat.....	26,500	550,888	577,388	308,880	311,247	620,127
Totals, wheat.....	336,021,325	823,720	336,845,045	397,160,280	13,200,830	410,361,110
Oats.....	27,463,800	1,830,717	29,294,517	38,576,160	1,122,381	39,698,541
Barley.....	40,537,500	7,294,055	47,831,555	27,834,900	2,067,362	29,902,262
Flax.....	4,703,650	—	4,703,650	4,116,280	—	4,116,280
Rye.....	7,849,000	8,664,908	16,513,908	12,359,880	8,727,633	21,087,513
Corn.....	3,500	—	3,500	7,500	—	7,500
Buckwheat.....	32,000	226,586	258,586	8,000	206,498	214,498
Peas.....	—	10,560	10,560	—	5,358	5,358
Speltz.....	1,000	—	1,000	—	—	—
Screenings.....	55,000	—	55,000	127,000	—	127,000
Mixed grains.....	930,900	—	930,900	1,212,600	1,800	1,214,400
Totals, Grain.....	417,597,675	18,850,546	436,448,221	481,402,600	25,331,862	506,734,462

Grain.	1928-29.			1929-30.		
	bush.	bush.	bush.	bush.	bush.	bush.
Spring wheat.....	465,393,810	23,218,666	488,612,476	219,201,680	9,221,538	228,423,218
Winter wheat.....	856,190	168,206	1,024,396	798,320	264,000	1,062,320
Totals, wheat.....	466,250,000	23,386,872	489,636,872	220,000,000	9,485,538	229,485,538
Oats.....	44,756,500	1,663,425	46,419,925	16,965,000	465,281	17,430,281
Barley.....	51,512,000	1,053,564	52,565,564	22,845,000	35,000	22,880,000
Flax.....	2,991,600	—	2,991,600	1,540,000	—	1,540,000
Rye.....	8,627,000	7,233,431	15,860,431	5,380,000	747,656	6,127,656
Corn.....	—	—	—	—	—	—
Buckwheat.....	1,000	225,572	226,572	2,000	53,800	55,800
Peas.....	—	—	—	—	—	—
Speltz.....	—	—	—	—	—	—
Screenings.....	355,000	—	355,000	105,000	—	105,000
Mixed grains.....	2,550,500	—	2,550,500	556,150	—	556,150
Totals, Grain.....	577,043,600	33,562,864	610,606,464	267,393,150	10,787,275	278,180,425

5.—Shipments of Grain by Vessels from Fort William and Port Arthur for the navigation seasons 1929 and 1930.

Grain.	1929.			1930.		
	To Canadian Ports.	To U. S. Ports.	Total Shipments.	To Canadian Ports.	To U. S. Ports.	Total Shipments.
Wheat.....bush.	73,951,185	83,493,055	157,472,115 ¹	82,352,535	96,597,429	178,949,964
Oats.....bush.	15,158,769	247,621	15,406,380	10,802,213 ²	1,101,641	11,903,854
Barley.....bush.	6,020,377	10,116,206	16,136,583	12,045,806 ²	1,935,606	13,981,212
Flaxseed.....bush.	705,817	677,845	1,470,772 ²	1,021,737	1,889,982	2,411,719
Rye.....bush.	2,525,014	247,224	2,772,238	2,445,307	800,868	3,246,175
Oat scalplings.....bush.	2,825,142	716,364	3,541,506	—	—	—
Totals.....bush.	101,186,294	95,497,815	196,798,894¹	108,667,598²	101,825,326	210,492,924²
Screenings.....tons	26,006	40,148	66,154	14,957	46,247	61,204

¹Includes 1 vessel wrecked carrying 27,875 bushels of wheat and 86,910 bushels of flaxseed.

²Includes 36,400 and 67,346 bushels of oats and barley wrecked, destined to Montreal.

6.—Shipments of Grain by Lake and All-Rail Routes from Fort William and Port Arthur for the crop years ended July 31, 1929 and 1930.

Grain.	1929.			1930.		
	Lake.	Rail.	Total.	Lake.	Rail.	Total.
	bush.	bush.	bush.	bush.	bush.	bush.
Wheat—						
No. 1 Hard.....	—	—	—	2,548,455	2,300	2,550,755
No. 1 Northern.....	5,973,676	9,790	5,983,466	36,345,942	22,500	36,368,442
No. 2 Northern.....	44,638,114	335,926	44,974,040	42,947,858	61,500	43,009,358
No. 3 Northern.....	69,119,679	416,750	69,536,429	16,050,715	24,000	16,074,715
No. 4.....	55,596,861	739,654	56,336,515	8,051,260	1,500	8,052,760
Other grades.....	118,273,693	686,686	118,960,379	38,436,687	296,176	38,732,863
Totals, Wheat.....	293,602,623	2,188,806	295,790,529	144,380,917	407,976	144,788,893
Oats.....	20,004,607	3,812,279	23,816,886	8,437,491	1,622,763	10,060,254
Barley.....	40,099,393	1,697,210	41,796,603	6,962,928	278,575	7,241,503
Flaxseed.....	2,913,008	98,089	3,011,097	974,778	50,726	1,025,504
Rye.....	6,885,151	52,022	6,937,173	1,474,839	1,500	1,476,339
Oat scalplings.....	7,219,666	802,623	8,022,289	2,006,038	102,099	2,108,137
Mixed grains.....	470,516	21,441	491,957	708,343	46,498	754,841
Totals, Other Grain.....	77,592,341	6,483,664	84,076,005	20,564,417	2,102,161	22,666,578

7.—Canadian Grain Handled at Eastern Elevators, by crop years ended Aug. 31, 1922-23, and July 31, 1924-1930.

Year.	Wheat.	Oats.	Barley.	Flaxseed.	Rye.	Total Grain.
	bush.	bush.	bush.	bush.	bush.	bush.
Receipts—						
1921-1922.....	120,870,258	50,187,467	16,365,929	1,170,635	2,270,964	190,865,253
1922-1923.....	195,912,085	32,097,720	14,790,852	501,979	3,418,010	246,720,646
1923-1924.....	223,719,604	49,154,956	15,562,501	653,807	3,377,790	292,468,658
1924-1925.....	153,399,076	54,899,163	15,991,065	1,506,975	6,229,093	232,025,372
1925-1926.....	215,549,103	62,779,106	32,688,079	1,287,532	2,541,379	314,845,199
1926-1927.....	198,210,174	24,508,721	32,791,627	1,638,413	4,078,293	261,227,228
1927-1928.....	208,212,325	27,519,265	17,123,636	2,198,833	10,777,836	265,831,895
1928-1929.....	289,646,130	38,856,198	27,046,998	1,988,872	10,945,419	368,483,617
1929-1930.....	132,356,863	15,932,469	8,381,291	658,303	3,226,137	160,555,063
Shipments—						
1921-1922.....	119,186,498	49,098,234	16,273,586	1,156,145	2,262,807	187,977,270
1922-1923.....	194,426,412	30,625,863	13,832,147	489,529	2,191,775	241,565,726
1923-1924.....	216,711,059	44,512,029	15,297,057	604,501	3,237,745	280,362,391
1924-1925.....	148,380,135	52,213,123	15,333,397	1,449,328	6,059,319	223,435,302
1925-1926.....	205,741,857	57,670,028	31,083,209	1,257,545	2,491,492	298,244,131
1926-1927.....	189,398,463	22,852,198	32,277,421	1,577,210	3,975,862	250,082,400 ¹
1927-1928.....	192,649,455	25,415,986	17,014,366	2,119,837	10,268,711	247,468,355
1928-1929.....	270,139,952	34,671,277	25,443,949	1,971,246	9,774,481	342,000,905
1929-1930.....	111,077,966	13,372,999	6,734,676	657,101	1,654,237	133,496,979

¹ Includes 1,246 bushels of buckwheat.

8.—Canadian Grain Handled at Eastern Elevators, by Classes of Ports, during the crop year ended July 31, 1930.

Ports.	Wheat.	Oats.	Barley.	Flaxseed.	Rye.	Total.
	bush.	bush.	bush.	bush.	bush.	bush.
Lake Huron and Georgian Bay Ports—						
On hand.....	8,145,917	1,172,268	602,333	—	196,728	10,117,246
Receipts—Water.....	23,261,560	3,123,823	2,396,820	87,691	526,220	29,396,114
Totals.....	31,407,477	4,296,091	2,999,153	87,691	722,948	39,513,360
Shipments—Rail.....	23,826,970	3,582,946	2,277,040	87,691	446,217	30,220,864
Water.....	693,684	—	—	—	—	693,684
Totals.....	24,520,654	3,582,946	2,277,040	87,691	446,217	30,914,548
In store.....	6,886,823	713,144	722,113	—	276,730	8,593,807
Lower Lake Ports—						
On hand.....	2,262,709	496,535	63,321	17,623	34,305	2,874,493
Receipts—Rail.....	639,395	81,668	69,441	1,202 ¹	34,966	826,672
Water.....	34,995,616	3,877,757	1,221,580	134,732	573,066	40,802,751
Totals.....	37,897,720	4,455,960	1,354,342	153,557	642,337	44,503,916
Shipments—Rail.....	9,194,443	2,532,858	328,149	97,565	424,158	12,577,173
Water.....	24,307,612	1,487,119	926,538	54,790	115,007	26,891,066
Totals.....	33,502,055	4,019,977	1,254,687	152,355	539,165	39,468,239
In store.....	4,395,665	435,983	99,655	1,202 ¹	103,172	5,035,677
St. Lawrence Ports—						
On hand.....	8,982,229	2,516,084	937,344	—	607,917	12,043,574
Receipts—Rail.....	5,388,866	306,917	130,140	—	48,025	5,873,948
Water.....	44,481,999	4,338,551	2,817,263	417,055	601,790	52,656,658
Totals.....	58,853,094	7,161,552	3,884,747	417,055	1,257,732	71,574,180
Shipments—Rail.....	7,361,029	5,053,707	2,358,518	417,055	335,234	15,625,543
Water.....	41,519,292	697,503	701,400	—	288,735	43,206,930
Totals.....	48,880,321	5,751,210	3,059,918	417,055	623,969	58,732,473
In store.....	9,972,773	1,410,342	824,829	—	633,763	12,841,707
Seaboard Ports—						
On hand.....	115,295	—	44	—	331,985	447,324
Receipts—Rail.....	4,083,277	18,866	143,005	—	261,125	4,506,273
Totals.....	4,198,572	18,866	143,049	—	593,110	4,953,597
Shipments—Water.....	4,168,178	18,866	142,497	—	44,886	4,374,427
Rail.....	6,758	—	534	—	—	7,292
Totals.....	4,174,936	18,866	143,031	—	44,886	4,381,719
In store.....	23,636	—	18	—	548,224	571,878

¹ Buckwheat.

Flour-milling in 1930.—The operating flour and grist mills industry in Canada in 1930 numbered 1,277 establishments, with a capital investment of \$62,617,007 and a total daily capacity of 117,407 barrels of flour. The mills were distributed by provinces as shown in Table 9. Statistics of their employees, value of products, etc., for the latest year available will be found in Table 6 of the chapter on manufactures, pp. 330-335 of this volume.

9.—Flour Mills of Canada, with their Equipment and Capacity, 1930, with Totals for 1929.

Province.	Flour and Grist Mills.	Chopping Mills.	Total Mills.	Rolls.	Stones.	Capacity of Flour Mills.
	No.	No.	No.	pairs.	pairs.	brl. per day.
Prince Edward Island.....	15	2	17	69	19	545
Nova Scotia.....	8	10	18	47	5	618
New Brunswick.....	11	22	33	73	2	661
Quebec.....	82	263	350	761	159	18,920
Ontario.....	149	535	684	2,352	43	67,470
Manitoba.....	30	8	38	563	5	12,087
Saskatchewan.....	47	30	77	552	14	12,907
Alberta.....	37	17	54	636	—	13,014
British Columbia.....	4	2	6	66	1	1,125
Totals, 1930.....	383	894	1,277	5,119	248	117,407
Totals, 1929.....	409	916	1,325	5,375	250	122,727

Section 3.—Marketing of Live Stock and Animal Products.¹

The estimated value of farm live stock and poultry in Canada in 1931 was \$511,438,000, or 120.3 p.c. of the value of field crops grown during the year. In gross value of product the slaughtering and meat-packing industry, which is dependent chiefly on animal husbandry for its materials, has during recent years been one of the most important single manufacturing industries in Canada.

The Canada Year Book, 1922-23, contained on pages 594-5 a brief historical description of the development and present position of the live-stock industry in the Dominion, with statistics of farm animals compiled from the decennial censuses, 1871 to 1921. A summary of this data is given in Table 10.

10.—Animals in Canada and Animals Killed or Sold by Farmers in Canada, by census years 1871-1931.

Year.	Animals in Canada.			Animals Killed or Sold and Wool Sold.			
	Cattle. ¹	Sheep.	Swine.	Cattle. ¹	Sheep.	Swine.	Wool.
	No.	No.	No.	No.	No.	No.	lb.
1871.....	2,484,655	3,155,509	1,366,083	507,725	1,557,430	1,216,097	11,103,480
1881.....	3,382,396	3,048,678	1,207,619	657,681	1,496,465	1,302,503	11,300,736
1891.....	3,997,023	2,563,781	1,733,850	957,737	1,464,172	1,791,104	10,031,976
1901.....	5,576,451	2,510,239	2,353,828	1,086,353	1,329,141	2,497,636	10,657,597
1911 ²	6,526,083	2,174,300	3,634,778	1,752,792 ³	949,039 ³	2,771,755 ³	6,933,955
1921 ²	8,519,484	3,203,966	3,404,730	1,616,626 ³	1,027,969 ³	1,779,257 ³	11,338,268
1931 ²	7,993,947	3,608,540	4,716,761	—	—	—	—

¹Figures for 1871-91 do not include work oxen.

²Census taken as of June 1, while previous censuses were taken in April, so that a greater number of young animals is included.

³Animals slaughtered on farms were not included. The following figures are comparable with data given for the previous years (the 1911 amounts being partly estimated).—

	Cattle.	Sheep.	Swine.
1911.....	1,915,059	1,097,015	4,282,624
1921.....	2,097,390	1,217,987	2,972,331

In Table 11 are given statistics showing the numbers of animals on farms for the years 1919 to 1930, expressed as percentages of the average numbers for the quinquennium 1911-1915.

11.—Index Numbers of Animals on Farms in Canada, calendar years 1921-31.

(Average number for 1921-1925=100.)

Year.	Animals on Farms.				
	Horses.	Milch Cows.	Other Cattle.	Sheep.	Swine.
1921.....	105.1	99.9	110.6	121.4	88.9
1922.....	100.6	100.2	102.2	107.8	90.3
1923.....	97.3	97.8	95.5	91.0	101.6
1924.....	98.9	99.7	98.0	88.7	117.0
1925.....	98.0	102.5	93.7	91.0	102.1
1926.....	93.7	102.7	80.9	103.8	100.6
1927.....	94.3	103.8	90.1	107.8	103.3
1928.....	93.1	101.1	85.3	112.9	103.8
1929.....	93.1	98.5	87.9	120.1	101.1
1930.....	90.8	98.5	89.8	122.1	92.3
1931.....	86.3	93.9	76.6	119.2	103.8

Live-Stock Marketings, 1930.—The number of cattle sold at stock-yards showed a decrease of 192,946 and the sales of hogs a decrease of 156,103 in 1930 as

¹Revised by Dr. T. W. Grindley, Chief, Agricultural Branch, Dominion Bureau of Statistics. For more detailed information on this subject see "Live Stock and Animal Products Statistics", published annually by the Dominion Bureau of Statistics, also "Live Stock Market and Meat Trade Review", published annually by the Live Stock Branch of the Dominion Department of Agriculture. See also the material under the heading "Farm Live Stock and Poultry", in Appendix III of this volume.

compared with 1929. Cattle sold numbered 606,489 in 1930, 799,435 in 1929, 875,428 in 1928, 958,872 in 1927, 980,154 in 1926, 967,712 in 1925, 872,932 in 1924, 830,898 in 1923 and 862,203 in 1922. The total numbers of hogs sold were 904,439 in 1930, 1,060,542 in 1929, 1,090,316 in 1928, 1,117,555 in 1927, 1,138,533 in 1926, 1,286,154 in 1925, 1,311,362 in 1924, 1,031,656 in 1923 and 835,773 in 1922. Sales of calves decreased from 378,860 in 1929 to 311,756 in 1930, and sheep sales decreased from 541,470 in 1929 to 483,645 in 1930.

Table 12 shows the receipts for sale at the various stock-yards and the disposition of the live stock sold in 1929 and 1930.

12.—Receipts and Disposition of Live Stock at Principal Markets in Canada, calendar years 1929 and 1930.

Market and Classification.	1929.				1930.			
	Cattle.	Calves.	Hogs.	Sheep and Lambs.	Cattle.	Calves.	Hogs.	Sheep and Lambs.
Toronto—	No.	No.	No.	No.	No.	No.	No.	No.
Receipts (Total).....	318,021	117,536	227,720	239,279	276,184	103,415	195,557	208,378
Shipments (Total).....	314,821	118,069	230,734	237,166	276,166	103,894	196,429	206,905
1. Can. Packing Houses.....	236,249	51,667	215,904	199,790	200,638	49,925	181,815	159,469
2. Local Butchers.....	29,604	18,508	10,670	27,684	24,097	22,586	8,470	40,273
3. Country Points.....	39,823	4,358	3,967	9,692	48,251	10,943	6,144	7,029
4. Other Stock-yards.....	1,264	420	193	—	845	198	—	134
5. U.S. Exports.....	7,861	43,116	—	—	239	20,242	—	—
6. Overseas Exports.....	20	—	—	—	2,096	—	—	—
Montreal (Pt. St. Charles)—								
Receipts (Total).....	64,590	138,207	174,788	157,360	52,246	107,903	144,669	136,380
Shipments (Total).....	76,320	137,238	190,313	173,522	59,831	110,767	176,718	135,191
1. Can. Packing Houses.....	60,026	77,357	91,516	120,762	44,213	45,657	86,807	92,812
2. Local Butchers.....	14,134	57,942	98,230	45,597	14,061	62,726	86,357	39,408
3. Country Points.....	962	441	477	4,478	1,316	747	1,571	1,322
4. Other Stock-yards.....	945	1,004	90	2,685	153	1,552	1,983	1,649
5. U.S. Exports.....	253	494	—	—	—	85	—	—
6. Overseas Exports.....	—	—	—	—	88	—	—	—
Montreal (East End)—								
Receipts (Total).....	15,280	29,954	21,883	18,851	11,697	28,302	18,734	12,206
Shipments (Total).....	15,280	29,952	22,831	18,845	11,517	29,514	18,792	12,192
1. Can. Packing Houses.....	9,692	6,233	2,919	5,390	3,826	7,679	2,949	4,411
2. Local Butchers.....	5,199	23,715	19,865	13,455	7,548	21,835	15,841	7,781
3. Country Points.....	389	4	47	—	143	—	2	—
4. Other Stock-yards.....	—	—	—	—	—	—	—	—
5. U.S. Exports.....	—	—	—	—	—	—	—	—
Winnipeg—								
Receipts (Total).....	233,302	52,639	281,003	62,178	155,623	41,531	242,003	60,768
Shipments (Total).....	232,478	52,203	280,956	61,320	158,630	39,719	240,297	61,764
1. Can. Packing Houses.....	117,376	35,397	157,976	44,075	91,816	30,569	114,251	52,665
2. Local Butchers.....	4,385	6,682	18,829	2,721	3,378	3,815	9,539	2,469
3. Country Points.....	36,394	3,509	45,545	14,524	38,454	3,033	61,077	6,098
4. Other Stock-yards.....	17,754	663	58,606	—	21,407	1,752	55,238	532
5. U.S. Exports.....	56,569	5,952	—	—	3,264	550	187	—
6. Overseas Exports.....	—	—	—	—	311	—	—	—
Calgary—								
Receipts (Total).....	71,935	15,512	109,526	24,760	47,632	13,101	95,091	23,780
Shipments (Total).....	85,436	1,862	109,526	24,700	60,296	437	95,091	23,772
1. Can. Packing Houses.....	52,351	1,462	101,651	20,868	48,277	352	86,015	19,489
2. Local Butchers.....	2,574	204	422	108	2,211	85	350	166
3. Country Points.....	18,637	196	6,213	3,724	8,646	—	8,013	4,117
4. Other Stock-yards.....	237	—	1,240	—	345	—	713	—
5. U.S. Exports.....	11,637	—	—	—	651	—	—	—
6. Overseas Exports.....	—	—	—	—	166	—	—	—
Edmonton—								
Receipts (Total).....	58,082	18,270	122,718	14,573	33,884	11,425	85,436	15,118
Shipments (Total).....	59,729	18,322	115,772	14,793	35,440	11,476	80,137	17,465
1. Can. Packing Houses.....	33,205	15,029	88,141	8,404	21,096	8,779	59,116	9,156
2. Local Butchers.....	2,349	1,740	5,522	3,024	2,356	1,896	5,404	4,454
3. Country Points.....	12,808	705	15,038	3,248	9,955	707	10,726	3,211
4. Other Stock-yards.....	1,069	183	6,816	117	1,495	—	4,891	644
5. U.S. Exports.....	10,298	665	255	—	538	94	—	—
Prince Albert—								
Receipts (Total).....	6,488	1,158	25,189	1,063	3,722	563	24,236	898
Shipments (Total).....	6,408	1,087	25,068	923	4,116	518	24,462	765
1. Can. Packing Houses.....	3,246	886	15,998	679	1,726	294	22,530	620
2. Local Butchers.....	213	119	151	25	174	42	140	72
3. Country Points.....	1,468	82	1,015	219	1,788	177	1,559	73
4. Other Stock-yards.....	755	—	7,904	—	428	5	233	—
5. U.S. Exports.....	726	—	—	—	—	—	—	—

12.—Receipts and Disposition of Live Stock at Principal Markets in Canada, calendar years 1929 and 1930—concluded.

Market and Classification.	1929.				1930.			
	Cattle.	Calves.	Hogs.	Sheep and Lambs.	Cattle.	Calves.	Hogs.	Sheep and Lambs.
	No.	No.	No.	No.	No.	No.	No.	No.
Moose Jaw—								
Receipts (Total).....	23,198	3,981	51,788	20,606	17,402	3,684	37,245	23,352
Shipments (Total).....	23,436	3,968	51,754	31,034	17,254	3,673	36,705	23,267
1. Can. Packing Houses.....	15,165	2,831	41,280	8,952	10,340	2,063	27,575	13,077
2. Local Butchers.....	16	75	28	—	46	22	35	61
3. Country Points.....	4,619	716	6,127	21,988	5,750	1,350	6,064	10,233
4. Other Stock-yards.....	1,361	48	4,319	94	980	230	3,031	—
5. U.S. Exports.....	2,275	298	—	—	138	8	—	—
Saskatoon—								
Receipts (Total).....	8,539	1,603	45,927	2,800	8,099	1,832	61,468	2,765
Shipments (Total).....	8,480	1,629	45,355	2,763	7,940	1,753	61,353	2,869
1. Can. Packing Houses.....	4,223	640	32,292	1,578	3,857	1,101	46,926	1,994
2. Local Butchers.....	1,820	838	2,361	699	1,820	587	3,218	523
3. Country Points.....	853	109	6,609	366	1,709	65	5,593	3,611
4. Other Stock-yards.....	891	42	4,093	120	554	—	5,616	—
5. U.S. Exports.....	693	—	—	—	—	—	—	—

The interprovincial and export movement of live stock in 1930 shows a falling-off in cattle and calves, but an increase in swine and sheep. Total shipments in 1930 with comparative figures for 1929 in parentheses were as follows: cattle 258,365 (443,807); calves 105,966 (184,987); swine 696,258 (676,405) and sheep 144,018 (128,839). Alberta was the largest shipper in the aggregate and also the largest shipper of hogs and sheep and lambs, reporting 62,086 cattle, 2,678 calves, 257,563 swine and 84,137 sheep. Saskatchewan led in cattle shipments and Ontario in shipments of calves.

The marketings of live stock through stock-yards by direct shipment to packers, or by export according to provinces of origin for the calendar year 1930 are given in Table 13. In Table 14 are given the statistics of the grading of animals from five provinces marketed through the stock-yards in 1930.

13.—Live Stock from Several Provinces of Canada, Marketed through Stock-Yards, Packers, etc., calendar year 1930.

Live Stock.	Maritime Provinces.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	Total.
	No.	No.	No.	No.	No.	No.	No.
Cattle—							
Totals to stock-yards.....	1,089	34,185	292,184	69,402	105,331	94,043	596,233
Direct to packers.....	—	680	41,774	846	4,821	18,795	66,916
Direct for export.....	1,203	908	7,385	20	379	3,031	12,926
Totals, Cattle.....	2,292	35,773	341,343	70,268	110,531	115,869	676,077
Calves—							
Totals to stock-yards.....	2,062	97,648	130,448	24,456	22,109	24,875	301,598
Direct to packers.....	—	351	25,994	449	1,394	12,521	40,709
Direct for export.....	223	2,175	8,319	—	9	80	10,754
Totals, Calves.....	2,285	100,174	164,761	24,905	23,512	37,426	353,069
Hogs—							
Totals to stock-yards.....	3,937	66,104	251,765	122,495	239,775	219,760	903,836
Direct to packers.....	16,825	16,723	802,103	77,636	74,804	409,175	1,397,266
Direct for export.....	235	—	12	—	—	—	24
Totals, Hogs.....	20,997	82,827	1,053,880	200,131	314,579	628,935	2,301,341
Sheep—							
Totals to stock-yards.....	10,723	133,779	197,302	39,837	41,006	79,000	501,647
Direct to packers.....	—	1,625	55,054	1,026	2,097	27,774	87,576
Direct for export.....	183	15	1,498	—	—	53	1,749
Totals, Sheep.....	10,906	135,419	253,854	40,863	43,103	106,827	590,975
Store cattle purchased.....	31	1,732	77,298	15,725	11,740	14,344	120,870

14.—Grading of the Live Stock from several Provinces of Canada, Marketed at the Stock-Yards, calendar year 1930.

Live Stock and Grade.	Maritime Provinces.	Quebec.	Ontario.	Manitoba.	Saskat- chewan.	Alberta.	Total.
	No.	No.	No.	No.	No.	No.	No.
1. Cattle:							
Steers up to 1,050 lb.—							
Good and choice.....	8	36	8,967	1,881	3,829	5,493	20,214
Medium.....	22	426	26,615	3,606	6,252	3,874	40,795
Common.....	133	2,461	14,920	3,590	6,265	4,512	31,881
Steers over 1,050 lb.—							
Good and choice.....	131	704	11,247	993	3,102	6,458	22,635
Medium.....	126	950	18,270	1,159	3,702	4,018	28,225
Common.....	103	707	3,544	434	1,126	2,269	8,183
Heifers—							
Good and choice.....	18	162	9,166	2,734	5,304	5,058	22,442
Medium.....	20	408	24,948	3,818	5,650	3,044	37,888
Common.....	25	1,338	11,152	1,831	2,248	1,397	17,991
Fed Calves—							
Good and choice.....	2	63	3,992	1,046	943	1,533	7,579
Medium.....	2	107	3,663	645	799	2,070	7,286
Cows—							
Good.....	23	1,306	13,931	3,190	5,623	6,841	30,914
Medium.....	60	3,232	15,026	4,828	5,537	3,336	32,019
Common.....	23	1,890	11,785	2,506	2,904	2,060	21,168
Canners and Cutters.....	3	6,448	10,776	1,772	1,801	1,662	22,462
Bulls—							
Good.....	4	338	2,401	839	1,172	737	5,491
Common.....	29	1,943	5,458	1,114	1,626	863	11,033
Stocker and Feeder Steers—							
Good.....	—	101	9,755	5,836	13,171	7,394	36,257
Common.....	—	1,049	15,241	6,955	10,274	4,996	38,515
Stock Cows and Heifers—							
Good.....	—	—	124	1,940	3,825	3,363	9,252
Common.....	—	4	238	2,387	2,854	1,507	6,990
Milkers and Springers.....	—	463	3,226	265	176	383	4,613
Unclassified—Jan.—Mar. 1.	357	10,049	67,739	16,033	17,148	21,175	132,501
Totals.....	1,089	34,185	292,184	69,402	105,331	94,043	596,234
2. Calves:							
Veal—							
Good and choice.....	31	11,304	54,217	10,718	8,716	11,660	96,646
Common and medium.....	318	41,114	67,109	13,730	13,165	13,196	148,632
Grass.....	1,713	45,230	9,122	8	228	19	56,320
Totals.....	2,062	97,648	130,448	24,456	22,109	24,875	301,598
3. Hogs:							
Select bacon.....	5,897	7,885	260,445	28,822	16,054	38,041	357,144
Bacon.....	5,976	23,885	553,650	52,950	53,693	132,346	822,500
Butchers.....	5,225	25,797	148,478	71,276	150,456	365,576	766,808
Heavies.....	660	3,449	26,322	6,581	12,081	13,752	62,845
Extra heavies.....	257	1,017	3,933	4,286	7,223	4,062	20,778
Lights and feeders.....	1,615	18,295	36,204	27,642	56,731	56,447	196,934
Sows No. 1.....	285	943	4,396	4,063	9,979	8,841	28,507
Sows No. 2.....	744	1,280	17,761	3,817	6,415	8,482	38,490
Roughs.....	40	114	751	260	889	404	2,458
Stags.....	63	162	1,928	434	1,058	984	4,629
Totals.....	20,762	82,827	1,053,868	200,131	314,579	628,935	2,301,102
4. Lambs and Sheep:							
Lambs—							
Good handyweights.....	3,314	46,715	142,474	24,831	23,007	30,391	270,732
Good heavies.....	1,004	14,491	2,527	1,343	2,486	4,100	25,951
Common, all weights.....	3,443	28,286	12,400	8,964	4,003	3,845	60,941
Bucks.....	1,987	31,237	21,061	1,135	388	133	55,941
Sheep—							
Good heavies.....	40	585	3,468	683	1,145	1,072	6,993
Good handyweights.....	205	4,052	11,779	1,395	6,923	8,151	32,505
Common.....	265	4,179	3,208	1,291	1,370	1,103	11,416
Unclassified.....	465	4,234	385	195	1,684	30,205	37,168
Totals.....	10,723	133,779	197,302	39,837	41,006	79,000	501,647

The classification of cattle was changed at the beginning of April and, therefore, receipts by grades are given only from April 1 to Dec. 31 and receipts for the first three months are included as "Unclassified".

Slaughtering and Meat-packing.—The tendency to large scale production in this industry is shown in the summary of census records below. The number of establishments has rapidly dropped off while the industry has grown by leaps and bounds. The concentration of the industry into a comparatively small number of large establishments has resulted in the utilization of by-products and in a marked increase in economy and efficiency of operation. In addition to the principal statistics reported in the decennial censuses from 1871 to 1921, annual figures collected through the Census of Industry for the years 1925 to 1930 are included in Table 15, whilst live stock slaughtered at Canadian inspected establishments in 1930 and 1931 are shown in Table 16.

15.—Principal Statistics of the Slaughtering and Meat-Packing Industry of Canada, decennially 1871-1921, annually 1925-30.

Description.	1871.	1881.	1891.	1901. ¹	1911. ¹	1921.
Establishments..... No.	193	203	527	57	80	84
Capital invested..... \$	419,325	1,449,677	2,173,077	5,395,162	15,321,088	58,459,555
Employees..... No.	841	852	1,690	2,416	4,214	9,711
Salaries and wages..... \$	145,376	209,483	503,053	1,020,164	2,685,518	13,547,778
Cost of materials..... \$	2,942,786	3,163,576	5,554,246	19,520,058	40,951,761	113,389,834
Value of products..... \$	3,799,552	4,084,133	7,125,831	22,217,984	48,527,076	153,136,289

Description.	1925.	1926.	1927.	1928.	1929.	1930.
Establishments..... No.	74	73	76	75	74	76
Capital invested..... \$	54,316,043	55,712,724	60,612,029	66,198,507	67,777,803	60,778,996
Employees..... No.	10,709	10,685	11,048	11,244	10,762	9,290
Salaries and wages..... \$	13,549,545	13,757,638	14,551,250	14,242,362	13,998,716	12,114,667
Cost of materials..... \$	132,329,355	139,200,096	133,076,361	142,396,342	151,814,517	129,004,327
Value of products..... \$	163,816,810	167,127,091	167,220,892	174,096,419	185,842,902	164,029,953

¹ Includes only establishments employing five hands and over.

16.—Live Stock Slaughtered at Canadian Inspected Establishments, by months, 1930 and 1931.

Month.	1930.				1931.			
	Cattle.	Calves.	Sheep.	Hogs.	Cattle.	Calves.	Sheep.	Hogs.
	No.	No.	No.	No.	No.	No.	No.	No.
January.....	54,345	14,137	30,879	206,542	53,193	15,383	37,301	165,902
February.....	40,703	15,981	20,064	167,722	40,979	17,828	32,443	161,161
March.....	43,429	30,818	24,208	168,370	47,917	36,594	31,553	153,883
April.....	44,065	56,068	26,839	161,804	48,107	52,644	26,905	172,315
May.....	48,466	59,227	22,584	174,082	50,927	51,618	22,905	157,831
June.....	40,356	41,545	35,553	159,200	47,673	44,261	55,889	163,951
July.....	45,815	34,741	55,933	127,031	45,794	31,021	70,858	148,255
August.....	48,231	26,736	79,223	123,580	48,508	29,195	80,920	161,664
September.....	53,662	29,876	114,460	139,804	52,446	28,107	116,930	204,493
October.....	68,613	27,897	184,560	160,432	55,179	25,117	192,571	246,950
November.....	57,503	20,562	98,252	167,501	52,668	22,158	98,077	259,110
December.....	56,829	18,649	52,564	170,257	48,645	17,150	54,539	247,260
Totals.....	602,017	376,237	745,119	1,926,325	592,036	371,076	820,891	2,242,763

Consumption of Animal Products.—The consumption of meats in Canada in 1930 is estimated at 671,425,526 pounds of beef, 744,327,819 pounds of pork and 70,639,631 pounds of mutton and lamb. The per capita consumption of beef on this basis amounts to 65.79 pounds; pork, 72.93 pounds and mutton and lamb, 6.92 pounds, a total of 145.64 pounds of meats per capita per annum. The corresponding data for other animal products are as follows: butter, 299,032,488 pounds and 29.30 pounds; cheese, 36,758,647 pounds and 3.60 pounds; eggs, 307,147,408 dozen and 30.09 dozen, and poultry 112,300,270 pounds and 11.00 pounds. Details are given in Table 17.

17.—Total and Per Capita¹ Consumption of Meats and Live-Stock Products in Canada, calendar years 1926-30.

Item.	1926.	1927.	1928.	1929.	1930.
BEEF.					
Slaughtered in Canada.....No.	1,902,032	1,993,454	1,948,790	1,953,399	1,903,890
Estimated dressed weight.....lb.	684,731,520	707,676,170	691,820,450	693,456,645	675,880,950
Imports of beef....."	325,127	249,897	2,519,091	5,235,412	3,631,176
Exports of beef....."	685,056,647	707,926,067	694,339,541	698,692,057	679,512,126
	27,233,800	56,741,800	47,136,700	31,230,800	8,086,600
Totals, consumption....."	657,822,847	651,184,267	647,202,841	667,461,257	671,425,526
Consumption per capita....."	69.61	67.59	65.82	66.57	65.79

PORK.					
Slaughtered in Canada.....No.	5,636,011	5,964,827	5,880,096	5,747,114	5,247,687
Estimated dressed weight.....lb.	800,313,562	847,005,434	834,973,632	816,090,188	745,171,554
Imports of pork....."	16,062,301	10,706,633	13,975,142	21,506,270	19,631,665
Exports of pork....."	816,375,863	857,712,067	848,948,774	837,596,458	764,803,219
	109,983,400	82,581,700	52,354,100	38,957,400	20,475,400
Totals, consumption....."	706,392,463	775,130,367	796,594,674	798,639,058	744,327,819
Consumption per capita....."	74.75	80.45	81.01	79.65	72.93

MUTTON AND LAMB.					
Slaughtered in Canada.....No.	1,394,978	1,450,222	1,528,386	1,625,508	1,661,734
Estimated dressed weight.....lb.	55,799,120	58,008,880	61,135,440	65,020,320	66,469,360
Imports of mutton and lamb....."	1,672,906	1,946,037	2,332,671	4,401,258	4,411,771
Exports of mutton and lamb....."	57,472,026	59,954,917	63,468,011	69,421,578	70,881,131
	1,274,000	1,889,200	1,127,800	573,300	241,500
Totals, consumption....."	56,198,026	58,065,717	62,340,211	68,848,278	70,639,631
Consumption per capita....."	5.95	6.03	6.34	6.87	6.92

SUMMARY OF PER CAPITA CONSUMPTION, ALL MEATS.

Beef.....lb.	69.61	67.59	65.82	66.57	65.79
Pork....."	74.75	80.45	81.01	79.65	72.93
Mutton and lamb....."	5.95	6.03	6.34	6.87	6.92
Totals, Consumption of All Meats per capita....."	150.31	154.07	153.17	153.09	145.64

BUTTER.

On hand, Jan. 1.....lb.	10,015,826	14,548,427	21,609,123	13,785,942	13,689,985
Production - Creamery....."	177,269,287	176,978,947	168,027,039	170,810,230	185,751,061
Home-made....."	95,000,000	95,000,000	90,000,000	88,000,000	84,337,000
Imports....."	9,151,882	11,208,819	16,801,656	35,928,249	38,606,055
Exports....."	291,376,995	297,736,193	296,437,818	308,524,421	322,384,101
	9,814,013	2,696,000	1,994,800	1,400,400	1,180,400
On hand, Dec. 31....."	281,562,982	295,040,193	294,443,018	307,124,021	321,203,701
	14,548,427	21,609,123	13,785,942	13,689,985	22,171,213
Totals, consumption....."	267,014,555	273,431,070	280,657,076	293,434,036	299,032,488
Consumption per capita....."	27.96	28.38	28.54	29.26	29.30

¹ For estimates of population, upon which per capita figures are calculated, see p. 110.

17.—Total and Per Capita¹ Consumption of Meats and Live-Stock Products in Canada, calendar years 1926-30—concluded.

Item.	1926.	1927.	1928.	1929.	1930.
CHEESE.					
On hand, Jan. 1..... lb.	22,410,962	23,302,293	20,844,826	18,464,126	12,076,024
Production—Factory..... "	171,731,631	138,056,908	144,584,619	118,746,286	119,105,203
Home-made..... "	500,000	500,000	500,000	490,000	482,900
Imports..... "	1,218,626	1,720,797	1,778,761	2,103,724	1,787,776
Exports..... "	195,861,219	163,579,998	167,708,206	139,804,136	133,451,905
On hand, Dec. 31..... "	134,656,000	110,533,000	114,152,500	92,946,100	80,163,700
On hand, Jan. 1..... "	61,205,219	53,046,998	53,555,706	46,858,036	53,288,203
On hand, Dec. 31..... "	23,302,293	20,844,826	18,464,126	12,076,024	16,529,556
Totals, consumption..... "	37,902,926	32,202,172	35,091,580	34,782,012	36,758,647
Consumption per capita..... "	4.01	3.34	3.57	3.47	3.60
EGGS.					
Production—Farm..... doz.	237,080,399	253,277,227	268,456,053	274,317,872	278,255,753
Other..... "	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000
Imports..... "	4,479,815	4,576,671	3,016,702	1,086,664	4,080,560
Exports..... "	266,560,214	282,853,898	296,472,755	300,404,536	307,336,313
Totals, consumption..... "	1,776,559	448,206	988,484	1,147,829	188,905
Totals, consumption..... "	264,783,655	282,405,692	295,484,271	299,256,707	307,147,408
Consumption per capita..... "	28.02	29.31	30.05	29.85	30.09
POULTRY.					
Poultry—On farms..... No.	50,108,516	50,178,485	53,779,539	59,932,963	60,795,000
Elsewhere..... "	7,082,000	7,082,000	7,082,000	7,082,000	7,082,000
Totals..... "	57,190,516	57,260,485	60,861,539	67,014,963	67,877,000
Marketings..... "	16,524,252	16,497,025	17,470,580	19,246,899	19,376,000
Estimated dressed weight..... lb.	97,681,758	96,782,064	102,409,964	113,105,085	113,607,350
Exports..... "	7,398,974	4,557,045	4,618,298	4,431,849	1,307,080
Totals, consumption..... "	90,282,784	92,225,019	97,791,666	108,673,236	112,300,270
Consumption per capita..... "	9.55	9.57	9.95	10.84	11.00

¹ For estimates of population, upon which per capita figures are calculated, see p. 110.

Interprovincial and International Trade in Meats.—Manitoba was the largest shipper of meats, moving a total of 55,801,341 pounds out of the province during the year 1930. Beef handled amounted to 17,304,993 pounds, veal 825,794 pounds, mutton and lamb 510,683 pounds, fresh pork 4,110,136 pounds, cured pork 4,378,608 pounds, pure lard 1,760,618 pounds, lard compound 1,290,828 pounds and miscellaneous meat products 25,619,677 pounds. Ontario shipped 52,278,597 pounds, the principal items including 20,398,730 pounds of beef, 1,108,244 pounds of veal, 862,428 pounds of mutton and lamb, 787,168 pounds of fresh pork, 10,133,260 pounds of cured pork, 6,242,526 pounds of pure lard, 1,085,032 pounds of lard compound and 11,661,203 pounds of miscellaneous products. Shipments from Quebec totalled 31,046,901 pounds, 3,890,623 pounds being beef, 1,033,208 pounds veal, 671,123 pounds mutton and lamb, 1,954,545 pounds fresh pork, 2,884,414 pounds cured pork, 751,532 pounds pure lard, 903,414 pounds lard compound and 18,958,043 pounds miscellaneous products. Alberta shipments aggregated 16,403,464 pounds made up of 2,370,225 pounds of beef, 556,232 pounds of veal, 312,187 pounds of mutton and lamb, 1,413,653 pounds of fresh pork, 5,147,876 pounds of cured pork,

1,267,810 pounds of pure lard, 1,939 pounds of lard compound and 5,333,542 pounds of miscellaneous items. Shipments from Saskatchewan were as follows: beef 240,043 pounds, fresh pork 278,231 pounds, cured pork 1,302,922 pounds, lard compound 29 pounds, miscellaneous 161,477 pounds, a total of 1,982,702 pounds. Totals for other provinces were: Prince Edward Island 15,766 pounds, Nova Scotia 420,835 pounds, New Brunswick 140,644 pounds, and British Columbia 816,097 pounds. Details of these shipments will be found at pp. 50-59 of the "Live Stock and Animal Products Statistics, 1930", which may be obtained on application to the Dominion Bureau of Statistics.

Export and Import Trade in Live Stock and Live-Stock Products.—The exports of live stock and live-stock products from the Dominion to the United Kingdom, the United States and all countries, are shown for the four fiscal years ended Mar. 31, 1928-31, in Table 12 of the chapter on External Trade, at pp. 428-435, and imports in Table 13 at pp. 452-457. Exports and imports are also available by calendar years 1926-1930, and may be found on pp. 81-83 and 84 of the report on "Live Stock and Animal Products Statistics, 1930". At pp. 298-316 of the report on "Trade of Canada (Imports for Consumption and Exports), Calendar Year 1930" figures are given of exports of "Animals and Animal Products" for 1929 and 1930 and imports of this class for the same calendar years will be found at pp. 91-110 of the same report.

Section 4.—Cold Storage.

Cold Storage Warehouses.—Under the Cold Storage Act, 1907 (6-7 Edw. VII, c. 6), now consolidated as c. 25, R.S.C., 1927, subsidies have been granted by the Dominion Government towards the construction and equipment of cold storage warehouses open to the public, the Act and regulations made thereunder being administered by the Department of Agriculture. Table 18 shows for 1931 the number of cold storage warehouses in Canada, with the refrigerated space. The latter amounts to 51,626,469 cubic feet, of which 11,109,730 cubic feet apply to 55 warehouses subsidized under the Act, while 40,606,739 cubic feet apply to 493 non-subsidized warehouses.

18.—Cold Storage Warehouses in Canada, by Provinces, 1931.

NOTE.—The figures in this table are supplied through the courtesy of J. F. Singleton, Chief of the Division of Dairy Markets and Cold Storage, Dominion Department of Agriculture.

Province.	Subsidized Public Warehouses.				Total Warehouses.	
	Num-ber.	Refriger-ated Space.	Cost.	Total Subsidy.	Num-ber.	Refriger-ated Space.
		Cubic ft.	\$	\$		Cubic ft.
Prince Edward Island.....	2	212,358	66,970	20,091	7	276,662
Nova Scotia.....	6	1,957,197	2,596,965	779,090	22	2,617,906
New Brunswick.....	3	1,162,761	537,996	161,399	24	1,083,216
Quebec.....	8	568,974	609,228	182,768	90	11,500,186
Ontario.....	23	4,408,236	2,691,349	807,405	195	16,331,145
Manitoba.....	1	27,500	32,000	9,600	51	5,512,374
Saskatchewan.....	4	437,596	268,707	80,612	48	1,996,417
Alberta.....	2	351,059	242,000	72,600	30	4,263,418
British Columbia.....	6	1,984,049	1,746,471	523,941	80	8,000,245
Yukon.....	-	-	-	-	1	44,900
Totals.....	55	11,109,730	8,791,686	2,637,506	548	51,626,469

Cold Storage Stocks.—Statistics of the stocks of food in the cold storage warehouses of Canada are collected and published monthly by the Agricultural Branch of the Dominion Bureau of Statistics. A summary of the cold storage

data is included in the report on "Live Stock and Animal Products Statistics", published annually. In Table 19 are included statistics by months, for 1930 and 1931, of the stocks of food in cold storage and in process of cure, for various important commodities.

19.—Stocks of Food on Hand in Cold Storage and in Process of Cure, by Months and Commodities, 1930 and 1931.

NOTE.—Figures in this table are of stocks on hand on the first of each month as published by the Agricultural Branch, Dominion Bureau of Statistics.

Month.	Eggs.	Butter.	Cheese.	Beef.			
				Fresh.	Cured.	In Process of Cure.	
1930.	doz.	lb.	lb.	lb.	lb.	lb.	
January.....	2,673,387	13,689,985	12,076,024	22,384,646	376,742	287,947	
February.....	1,973,697	13,931,530	10,317,278	19,663,738	257,230	291,673	
March.....	1,684,417	13,289,329	8,859,570	15,723,639	276,299	250,261	
April.....	2,871,802	12,503,563	6,350,320	14,915,109	221,175	202,505	
May.....	7,107,522	8,446,549	6,407,755	12,487,921	158,400	176,315	
June.....	14,350,844	11,163,780	6,471,834	11,335,980	154,792	196,214	
July.....	18,321,653	22,822,328	15,784,046	10,099,061	345,389	134,773	
August.....	19,840,451	33,605,009	25,247,333	9,266,179	389,789	191,171	
September.....	20,286,049	40,224,517	30,976,401	8,399,448	310,721	90,262	
October.....	19,603,813	38,726,275	31,250,460	8,413,771	446,396	384,160	
November.....	15,795,287	34,388,704	24,800,773	10,094,202	307,018	110,521	
December.....	10,781,995	29,215,701	16,914,747	11,249,171	200,033	130,568	
1931.							
January.....	7,544,226	22,171,213	16,529,556	10,828,595	228,054	168,525	
February.....	5,945,223	17,337,952	14,643,787	10,531,854	197,883	154,162	
March.....	3,719,335	11,588,652	13,206,345	9,031,127	315,867	146,462	
April.....	4,969,360	6,785,810	11,792,927	8,440,235	264,991	145,674	
May.....	9,880,620	5,264,166	10,379,132	7,215,446	223,565	102,872	
June.....	16,966,237	8,701,986	10,651,736	8,230,722	177,373	168,622	
July.....	18,632,751	20,933,554	19,085,500	7,452,954	157,496	186,548	
August.....	19,082,451	33,214,532	25,283,830	6,618,138	170,406	184,728	
September.....	19,618,350	40,400,552	29,830,929	7,356,246	191,617	174,505	
October.....	17,997,366	41,078,798	21,082,677	7,363,262	146,838	132,465	
November.....	13,408,585	37,691,418	14,296,818	7,788,296	90,710	104,688	
December.....	8,991,750	31,672,938	12,640,692	9,472,736	120,446	113,325	
Month.	Veal.	Pork.			Lard.	Mutton and Lamb.	Poultry.
		Fresh.	Cured.	In Process of Cure.			
1930.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
January.....	3,239,765	13,719,067	7,442,149	6,905,060	2,863,828	8,650,621	11,611,440
February.....	2,592,278	17,245,773	7,705,376	7,036,565	2,880,955	7,694,632	10,606,197
March.....	1,872,937	17,688,497	8,332,456	7,975,551	2,661,353	5,302,946	9,810,279
April.....	1,631,038	19,393,576	8,279,315	8,563,057	2,642,115	5,875,689	8,614,447
May.....	2,147,856	18,386,148	8,145,177	7,956,882	2,460,331	4,979,455	7,561,458
June.....	2,309,523	17,145,989	9,118,678	8,281,858	2,689,915	3,120,029	5,710,353
July.....	2,414,560	15,532,652	12,167,056	8,971,612	3,492,389	2,152,429	5,115,598
August.....	2,401,142	10,933,165	8,210,092	7,166,168	3,420,799	1,515,856	3,913,459
September.....	2,075,645	8,717,730	6,863,684	6,051,719	2,390,235	1,161,611	3,074,080
October.....	2,324,711	5,611,383	6,770,763	5,204,122	1,519,565	1,871,147	2,597,625
November.....	2,818,894	5,553,604	5,539,872	5,673,595	1,362,933	4,993,362	2,790,249
December.....	2,537,825	6,556,210	6,116,393	6,498,772	1,816,342	7,250,633	4,295,096
1931.							
January.....	2,155,184	8,226,290	6,648,557	4,712,358	2,093,899	6,989,216	7,550,516
February.....	1,396,966	9,268,776	6,537,712	5,370,180	2,848,700	5,318,614	6,893,101
March.....	1,061,659	11,225,403	7,678,917	5,990,746	3,247,105	4,480,832	6,373,960
April.....	890,715	10,296,690	7,177,683	5,477,574	3,167,894	3,152,949	4,980,105
May.....	1,321,438	11,527,377	7,475,111	5,956,580	3,967,669	2,048,858	3,283,964
June.....	1,787,332	10,792,877	7,279,917	6,075,630	4,391,610	1,082,384	2,420,156
July.....	1,729,872	9,365,044	7,446,489	5,804,211	4,085,741	852,626	1,811,327
August.....	1,614,471	8,583,367	6,073,152	5,790,359	4,194,677	770,636	1,740,112
September.....	1,573,865	7,711,272	7,494,457	5,244,618	3,209,873	792,394	1,639,151
October.....	1,585,533	6,705,715	6,536,751	5,829,993	2,627,626	2,024,331	1,996,979
November.....	1,696,171	7,443,442	7,148,052	6,632,946	1,381,626	6,790,539	3,214,611
December.....	1,602,202	11,452,721	8,355,677	6,213,119	1,947,020	8,218,471	6,929,255

Section 5.—Bounties, Patents, Copyrights and Trade Marks.¹

Bounties.—In cases where it is considered advisable for the Government to encourage the production of a particular commodity, bounties paid by the Government are recognized substitutes for protective duties. In the past they have been made use of by Canada to a considerable degree, but the only bounties which involved payments in 1929-30 were those on hemp and on copper bars and rods. The amounts of these bounties paid in recent periods have been as follows:—

Copper Bounties Paid in—

Year ended June 30, 1925.....	1,164,140 lb. at 1½c.....	\$ 14,551.75
Year ended June 30, 1926.....	10,808,627 lb. at 1c.....	108,086.27
Year ended June 30, 1927.....	16,387,302 lb. at ¾c.....	122,904.39
Year ended June 30, 1928.....	12,514,446 lb. at ¾c.....	62,572.24
Year ended June 30, 1929.....	6,837,124 lb. at ¾c.....	34,185.63
Year ended June 30, 1930.....	10,857,149 lb. at ¾c.....	54,285.75
4 Mos. ended Oct. 31, 1930.....	889,286 lb. at ¾c.....	4,446.43
Totals.....	59,458,074 lb.	\$401,032.46

Hemp Bounties Paid in—

Calendar year 1926.....	19,048 lb. at 1½c.....	\$ 285.72
Calendar year 1927.....	203,087 lb. at 1½c.....	2,792.43
Calendar year 1928.....	826,821 lb. at 1½c.....	10,335.25
Calendar year 1929.....	666,113 lb. at 1½c.....	7,493.77
10 Mos. ended Oct. 31, 1930.....	246,502 lb. at 1c.....	2,465.02
Totals.....	1,961,571 lb.	\$ 23,372.19

Bounties have been paid at various times in the past on iron and steel, on lead, on crude petroleum, on manila fibre, on zinc and on linen yarns, but the bounties on iron and steel ceased in 1911, on lead in 1918, on zinc in 1921, on linen yarns in 1923 and on crude petroleum in 1927. The total amounts paid in bounties on these commodities between 1896 and the date of expiration were: iron and steel and manufactures of (1896-1912), \$16,785,827 (Canada Year Book 1915, p. 460); lead (1899-1918) \$1,979,216 for 1,187,169,878 lb. of lead; zinc \$400,000; linen yarns \$17,523; manilla fibre (1903-1913), \$367,962; crude petroleum (1905-1927) \$3,457,173 on 233,135,217 gallons. (For quantities of crude petroleum and bounties paid in each year, see table on p. 635 of the 1927-28 Year Book.) Total payments for expired bounties between 1896 and 1929 aggregated \$23,007,701, which, with the \$401,032 paid on copper bars and rods and the \$23,372 for hemp, make a total of \$23,432,105. The existing bounty on copper bars and rods was extended to June 30, 1931 at the rate of ½c. per lb. by c. 15 of the Statutes of 1928. The Year Book of 1915, pp. 459-461, gave a description of the bounties that had been payable since 1883, as well as tables showing, for each commodity, the quantities on which bounties were annually paid and the amounts of such bounties for the years 1896 to 1915 inclusive. For details of the bounties on zinc, see p. 635 of the 1927-28 Year Book.

A bounty on Canadian coal used in the manufacture of iron or steel was authorized by c. 6 of the Statutes of 1930. By that Statute, manufacturers of iron and steel may be paid 49½c. per ton of bituminous coal mined in Canada, converted into coke in Canada and used by such manufacturers in the smelting of iron ore or in the manufacture of steel ingots or steel castings in Canada. This bounty was established on the recommendation of the Royal Commission on Maritime Claims relating to the manufacture of iron or steel by the use of Canadian coal.

¹ Information regarding bounties has been revised by H. B. Borbridge, Chief Accountant, Department of Trade and Commerce, and information regarding patents, copyrights and trade marks by T. L. Richard, Commissioner of Patents, Ottawa.

Patents.—Letters patent, which in England have been in the gift of the Crown from the time of the Statute of Monopolies and earlier, are, in Canada, a purely statutory grant and have always been so. The earliest Act was one of Lower Canada, passed in 1824, wherein provision was made for the granting of patent rights to inventors who were British subjects and inhabitants of the province. Upper Canada passed its Act in 1826, and Nova Scotia and New Brunswick passed theirs at later dates. In 1849, after the Union, a consolidating Act was passed applying to both Upper and Lower Canada, and the B.N.A. Act assigned the granting of patents exclusively to the Parliament of Canada. The Dominion Patent Act of 1869 repealed the provincial Acts and has formed the basis of all succeeding Acts.

The first Canadian patent was issued under the Lower Canada Act of 1824 to Noah Cushing of Quebec; 165 patents were granted under the Acts of Upper and Lower Canada, and, under the consolidating and later Acts of the provinces 3,160 patents were granted.

Letters patent of inventions are now issued subject to the provisions of Chapter 150 R.S.C., 1927, and applications for protection relating to the same should be addressed to The Commissioner of Patents, Ottawa, Canada.

Invention means any new and useful art, process, machine, manufacture or composition of matter or any new and useful improvement in any art, process, machine, manufacture or composition of matter.

The growth of Canadian inventions is shown by the fact that an average of 1,422 patents was issued annually to Canadians during the decade 1920-29. The business of the Office has gradually continued to expand and the number of applications and total fees increased each year without a break from the beginning of the present century until the fiscal year ended Mar. 31, 1913, when 8,681 applications were received and the total fees amounted to \$218,125. In the fiscal year ended Mar. 31, 1931 there were 13,229 applications, with fees amounting to \$472,636, as compared with 14,288 and \$478,327 respectively in 1930. For the fiscal year ended Mar. 31, 1931, the number of patents granted was 11,262 as compared with 10,401 in 1930, an increase of 861. Of the patents of 1931, 7,298 or 65 p.c. were issued to United States inventors, 1,109 to Canadians and 1,004 to residents of Great Britain and Ireland, while Germany with 821, France with 291 and Sweden with 87, came next in number of inventors to whom patents were issued. Table 20 shows the distribution of the Canadian patentees for the years 1920 to 1931 by province of residence.

20.—Number of Canadian Patentees, by Province of Residence, for the fiscal years ended Mar. 31, 1920-31.

Province.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island...	9	2	4	9	7	2	2	5	3	1	3	3
Nova Scotia.....	29	29	22	35	41	26	30	19	24	16	17	14
New Brunswick.....	22	33	14	21	14	24	24	21	12	17	16	18
Quebec.....	312	331	276	430	312	302	272	320	298	293	282	265
Ontario.....	636	708	508	845	673	559	561	499	537	538	500	491
Manitoba.....	86	118	75	158	83	66	68	89	71	61	72	74
Saskatchewan.....	94	119	101	166	106	101	90	68	100	93	81	66
Alberta.....	116	127	96	155	123	95	95	82	88	98	71	76
British Columbia.....	147	177	103	202	174	127	150	129	152	148	126	101
Yukon and N.W.T.....	—	1	—	—	—	—	—	—	—	—	1	1
Totals.....	1,451	1,645	1,199	2,021	1,533	1,302	1,292	1,232	1,285	1,265	1,169	1,109

It will be seen from the table that the more populous provinces of Ontario and Quebec obtained the largest absolute number of patents, but a calculation of the number of patentees in relation to population shows that, for the fiscal year 1930, the greatest relative inventiveness was displayed in British Columbia. Thus, in this province, in 1930, one patent was granted for every 5,365 persons, the other provinces, as regards the number of persons to each patent granted, being placed in order as follows: Ontario, 6,772; Alberta, 9,972; Manitoba, 9,569; Saskatchewan, 11,148; Quebec, 10,018; New Brunswick, 25,375; Prince Edward Island, 29,333 and Nova Scotia, 30,235.

21.—Statistics of Patents Applied for, Granted, etc., fiscal years ended Mar. 31, 1926-31.

Item.	1926.	1927.	1928.	1929.	1930.	1931.
Applications for patents.....No.	11,133	11,406	11,845	13,062	14,288	13,299
Patents granted....."	11,001	10,018	9,518	9,335	10,401	11,262
Certificates for renewal fees....."	1,761	2,204	319	404	149	52
Caveats granted....."	396	397	370	334	363	352
Assignments....."	5,948	6,409	7,011	8,227	9,505	12,723
Fees received, net.....\$	455,211	438,690	412,146	434,498	478,327	472,636

As will be seen from Table 21 the increased activity in invention which was manifested during 1928-29 was still more marked in the fiscal year 1929-30, although there was a slight decline in 1931. With few exceptions the activity was distributed over the whole field of invention.

In the chemical and electrical arts the use of cellulose derivatives in the production of artificial threads and fibres and their treatment for the making of fancy products, the production of synthetic resins, synthetic drugs and dyes have been the subjects of increased numbers of applications during recent years.

The increasing use of electrical power for industrial and domestic purposes has resulted in a large number of applications for generation, transmission and control apparatus. In connection with talking picture machines many improvements have been made in the use of photo-electric cells, and in the construction of thermionic valves for radio and other uses there is a marked increase in the number of applications. Submarine cable applications for the elimination of distortion of signals have materially increased. Automatic telephones and television apparatus have formed the subject of many applications, particularly by specialists connected with large organizations. Electric, gas and vapour discharge lamps for general lighting, advertising signs and for use in the production of ultra-violet radiations have greatly developed and applications relating to transportation such as road, railway and aeronautical vehicles, brakes, clutches, couplings and propellers show good general increases. Applications for machines for mixing concrete while conveying it to the place of use, methods of making laminated shatter-proof glass, thermostatic control of heating and cooling devices, the reduction of metals from their ores, tire carriers for motor vehicles, food compositions, toys and games exceeded in 1931 the number filed the previous year.

Copyrights and Trade Marks.—Registration of copyright is governed by c. 32, R.S.C., 1927, and an application for protection relating to same should be addressed to The Commissioner of Patents, Ottawa, Canada.

The Copyright Act of 1921 (amended in 1923 and consolidated in c. 32, R.S.C., 1927) sets out in section 4 the qualifications for a copyright and in section 5, its

duration. "Copyrights shall subsist in Canada . . . in every original literary, dramatic, musical and artistic work, if the author was, at the date of the making of the work, a British subject, a citizen or subject of a foreign country which has adhered to the (Berne) Convention and the additional Protocol . . . or resident within His Majesty's Dominions. The term for which the copyright shall subsist shall, except as otherwise expressly provided by this Act, be the life of the author and a period of fifty years after his death".

Copyright protection is extended to records, perforated rolls, cinematographic films and other contrivances by means of which a work may be mechanically performed. The intention of the Act is to enable Canadian authors to obtain full copyright protection throughout all parts of His Majesty's Dominions, foreign countries of the Copyright Union, and the United States of America, as well as in Canada.

The Trade Marks Act (c. 201, R.S.C., 1927) was amended by c. 10 of the Statutes of 1928, bringing the Act into agreement with the terms of the Convention for Protection of Industrial Property, as amended at The Hague in 1925 with regard to refusal to register certain trade marks. The renewal of expired trade-mark registration was also provided for, while it was also enacted that in certain cases interested parties might apply to the Exchequer Court of Canada for the cancellation of a trade mark at any time within three years from its registration.

22.—Statistics of Copyrights, Trade Marks, etc., fiscal years ended Mar. 31, 1926-31.

Item.	1926.	1927.	1928.	1929.	1930.	1931.
Copyrights registered.....No.	2,861	3,167	2,889	3,043	4,072	3,008
Certificates of copyright....."	2,600	2,935	2,649	2,781	3,849	3,008
Trade marks registered....."	2,203	1,828	2,210	2,316	3,143	2,848
Industrial designs registered....."	525	376	411	337	408	495
Timber marks registered....."	12	18	8	12	12	24
Assignments registered....."	1,744	1,641	2,055	2,055	2,282	1,703
Fees received, net.....\$	79,927	79,239	83,791	95,741	96,591	87,009

The following table gives the receipts, expenditures and surplus on account of patents, copyrights and trade marks for the fiscal years 1921-31.

23.—Receipts, Expenditures and Surplus on Account of Patents, Copyrights and Trade Marks, fiscal years ended Mar. 31, 1921-31.

Fiscal Year.	Receipts.	Expenditures.				Surplus.
		Civil Gov- ernment.	Patent Record.	Conting- encies.	Total.	
	\$	\$	\$	\$	\$	\$
1921.....	407,881	124,096	31,521	28,668	184,285	223,601
1922.....	454,886	150,650	22,594	28,950	202,193	252,693
1923.....	484,479	155,038	36,397	33,853	225,288	259,191
1924.....	459,780	166,593	32,052	28,446	227,091	232,689
1925.....	550,531	144,661	30,206	20,941	195,808	354,723
1926.....	535,139	149,839	34,973	24,155	208,967	326,172
1927.....	517,930	152,631	34,613	27,766	215,010	302,919
1928.....	495,937	157,084	34,006	24,653	215,744	280,193
1929.....	530,239	162,005	29,749	26,870	218,624	311,615
1930.....	574,918	169,339	34,946	31,622	235,907	339,011
1931.....	559,646	174,458	35,000	32,000	241,458	318,188

Section 6.—Weights and Measures, Electricity and Gas Inspection.¹

Weights and Measures.—The object of weights and measures administration is to provide and maintain uniform standard units for the conduct of industry and commerce. Weights and measures, indeed, are complementary to the currency. Short weight, whether arising from fraud or accident, is identical in effect with short change.

Prior to Confederation, the administration of weights and measures was in the hands of each Provincial Government but passed to the Dominion Government in 1867, under section 91 of the British North America Act. Steps were then taken to simplify the standards in use and to establish uniformity throughout the Dominion.

What might be termed the principal Weights and Measures Act of Canada was passed in the session of 1872-73; its provisions closely followed English weights and measures law, but the system of weights and measures to be legally used in trade was greatly simplified. This Act established as the primary legal standards for Canada the imperial pound, gallon and yard, but in place of the system of stones, quarters, hundredweights (112 lb.) and the long ton (2,240 lb.), it provided a decimal series of weights, 1, 2, 3, 5, 10, 20, 30, 50, 100 lb., and the short ton of 2,000 lb. The only exceptions to this were the continued use of the old French land measure, the arpent, in Quebec, and the use of the long ton (2,240 lb.) in the coal-mining industry, but not for the retail sale of coal. The troy ounce of 480 grains and its decimal submultiples are the legal weights for the weighing of gold and precious metals. The metric system is legal for all transactions.

Many changes, deletions and additions have been made to the Act of 1873 by later legislation, but its principles remain unchanged. The latest legislation is the Weights and Measures Act (c. 212, R.S.C., 1927).

The Weights and Measures Service was first administered by the Department of Inland Revenue, and offices were opened in all the principal centres of Canada and equipped with standards and inspection equipment. In 1918 the Service was transferred and attached to the Department of Trade and Commerce. For purposes of administration, the Dominion is divided into 18 districts, each in charge of a district inspector and suitable staff stationed in the larger cities throughout the country. The chief rules of administration are as follows:—

(a) Every new type of weighing and measuring device must be submitted to the Department at Ottawa for approval before being placed on the market.

(b) Every new machine must be inspected and stamped by an inspector before being sold or taken into use.

(c) Imported machines are held by the customs until release is approved by the nearest inspector.

(d) All inspections take place on the traders' premises, except where devices are brought to the inspection offices.

(e) Fees are charged for inspection and stamping, the schedule being defined by Order in Council, and all moneys so collected are paid into the Consolidated Revenue Fund of Canada.

¹ The material on Weights and Measures has been revised by E. O. Way, Director of Weights and Measures, Department of Trade and Commerce and that on Electricity and Gas Inspection by J. L. Stiver, Director, Electrical and Gas Standards Laboratories, Department of Trade and Commerce.

The following table is a summary of the articles and machines inspected in the fiscal year 1930-31.

24.—Inspections by the Weights and Measures Service, fiscal year ended Mar. 31, 1931.

Article.	Submitted.	Verified.	Rejected.	Percentage of Rejections.
Weights (Dominion).....	89,259	85,258	4,001	4.5
Weights (metric).....	1,047	1,022	25	2.4
Measures of capacity.....	73,612	73,023	589	0.8
Measures of length.....	11,121	11,023	98	0.9
Milk cans.....	79,201	79,105	96	0.1
Ice cream containers.....	51,597	51,563	34	0.06
Measuring devices.....	53,153	47,278	5,875	11.06
Tank wagons.....	661	650	11	1.6
Babcock glass ware.....	43,304	43,179	125	0.29
Weighing machines.....	184,365	163,088	21,277	11.5
Weighing machines (metric).....	522	511	11	2.1
Totals.....	587,842	555,700	32,142	-

The total revenue collected by the Service during the year amounted to \$420,306 and the total expenses, including salaries, totalled \$353,385.

Electricity and Gas Inspection.—The Electricity and Gas Inspection Branch of the Department of Trade and Commerce administers three Acts, the Electricity Inspection Act (c. 22, 1928), the Gas Inspection Act (c. 82, R.S.C., 1927), and the Electricity and Fluid Exportation Act (c. 54, R.S.C., 1927).

The latest report of the Branch shows 495,819 electricity and gas meters tested in the fiscal year ended Mar. 31, 1931, as compared with 489,569 in the preceding year. The total revenue derived from electricity and gas inspection was \$331,018, as compared with an expenditure of \$229,691. The Branch also collected \$395,545 as export duty and licence fees under the provisions of the Electricity and Fluid Exportation Act; the cost of collecting this revenue was only \$210.

Statistics collected as a by-product of the administration of the last-named Act will be found on p. 294, in the Water Power chapter of the Year Book. Here, however, may be given statistics collected by the Branch in the process of administration and showing the phenomenal increase in the number of consumers of electricity in the past sixteen years, from 505,597 to 1,654,922 (Table 25); the lesser increase in the gas meters in use from 267,454 in 1916 to 656,731 in 1931 (Table 26); and the number of cubic feet of gas sold in Canada from 1920 to 1931, classified as carburetted water gas, coal gas, coke oven gas, natural gas, acetylene gas and butane (Table 27).

25.—Number of Electricity Meters in Use, fiscal years ended Mar. 31, 1915-31.

Fiscal Year.	Number.	Fiscal Year.	Number.
1915.....	505,597	1923.....	1,046,83
1916.....	517,629	1924.....	1,094,63
1917.....	594,737	1925.....	1,165,60
1918.....	661,403	1926.....	1,240,75
1919.....	717,776	1927.....	1,314,42
1920.....	743,468	1928.....	1,412,52
1921.....	860,379	1929.....	1,499,87
1922.....	945,599	1930.....	1,582,50
		1931.....	1,654,92

26.—Number of Gas Meters in Use, fiscal years ended Mar. 31, 1916-31.

Fiscal Year.	Manufactured Gas.	Natural Gas.	Acetylene Gas.	Butane.	Total.
	No.	No.	No.	No.	No.
1916.....	199,514	67,940	—	—	267,454
1917.....	314,915	55,697	—	—	370,612
1918.....	325,244	88,795	—	—	414,039
1919.....	336,388	91,056	—	—	427,444
1920.....	350,777	85,004	513	—	436,294
1921.....	361,479	98,494	577	—	460,550
1922.....	366,840	101,785	430	—	469,055
1923.....	379,459	102,007	438	—	481,904
1924.....	390,548	105,804	425	—	496,777
1925.....	405,471	106,861	404	—	512,736
1926.....	443,067	85,752	425	—	529,244
1927.....	462,496	90,302	358	—	553,156
1928.....	482,076	98,915	357	—	581,348
1929.....	504,500	107,504	116	—	612,120
1930.....	520,788	118,390	117	—	639,295
1931.....	530,909	125,550	67	205	656,731

27.—Number of Cubic Feet of Gas Sold in Canada, fiscal years ended Mar. 31, 1920-31.

Fiscal Year	Carburetted Water Gas.	Coal Gas.	Coke Oven Gas.	Natural Gas.	Acetylene Gas.	Butane.	Total.
	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.	cu. ft.
1920	4,487,511,639	6,787,370,045	—	17,117,100,328	1,669,650	—	28,393,651,662
1921	5,331,442,415	7,096,221,745	—	—	—	—	—
1922	4,668,391,857	8,433,860,903	—	11,289,592,401	1,005,000	—	24,392,850,161
1923	6,632,961,609	7,637,113,997	132,000	12,238,836,883	1,165,395	—	26,510,207,884
1924	5,214,843,290	8,042,882,100	3,188,600	14,866,618,700	1,194,059	—	28,128,726,149
1925	5,254,802,700	7,824,192,540	91,628,300	10,525,604,563	1,266,109	—	23,697,494,212
1926	4,835,613,326	8,149,894,391	1,449,794,500	13,004,469,776	1,210,894	—	27,440,982,887
1927	5,804,503,468	8,405,556,329	1,049,978,000	17,863,365,700	1,247,108	—	33,124,650,905
1928	6,883,634,603	7,488,964,653	1,680,237,100	20,365,048,768	1,325,510	—	36,419,210,634
1929	4,550,828,600	6,273,274,533	6,097,920,366	25,491,446,000	647,168	—	42,414,116,667
1930	4,456,996,628	5,802,653,503	8,153,473,000	31,880,844,600	847,230	—	50,294,814,961
1931	4,214,554,234	6,249,189,852	7,792,046,911	23,534,604,069	875,080	9,137,000	46,800,407,146

Section 7.—Statistics of Wholesale and Retail Merchandising.¹

Comprehensive information regarding the distribution of commodities to the consumer is an outstanding need in the field of statistical effort at the present time. Statistics of production have helped to solve many of the problems of production, thus rendering it more efficient. We have very little information of an exact nature about wholesale and retail distribution, yet some of the most important business problems of the day are concerned with this field of activity by which goods reach the ultimate consumer from the manufacturer and producer. It is to be expected that if a comprehensive picture of the channels through which commodities are distributed and services rendered to consumers was made available, it would lead to many economies and aid in the development of more efficient distribution.

In connection with the 1931 population census information regarding merchandising and service establishments has been collected with the purpose of obtaining a much needed comprehensive picture of the distribution of commodities at wholesale and retail and of the agencies through which services are performed. This census included questions on capital employed, employees, wages, sales and expenses, etc. At the time of going to press the census material covering these aspects of internal trade has not been completely assembled or analysed. Reference is made to pp. 644-646 of the 1931 Year Book for the latest figures on trading establishments and chain stores.

¹Revised by Herbert Marshall, B.A., F.S.S., Chief, Internal Trade Branch, Dominion Bureau of Statistics. For a list of the Publications of this Branch see Chapter XXIX, Section 1 under "Internal Trade".

CHAPTER XVIII.—TRANSPORTATION AND COMMUNICATIONS.

Canada is a country of continental dimensions, nearly 4,000 miles in length from east to west, with its relatively small population of 10,374,196 in the main thinly distributed along the southern borders of its vast area. Different parts of the country are shut off from each other by areas which are almost wildernesses, such as the region lying between New Brunswick and Quebec and the areas north of lakes Huron and Superior, the last dividing the industrial region of Ontario and Quebec from the agricultural areas of the prairies. To such a country with such a population, producing, like our western agriculturists, mainly for export, or, like our manufacturers, largely for consumption in distant portions of the country itself, cheap transportation is a necessity of life. Before 1850, when the water routes were the chief avenues of transportation and were closed by ice for several months each year, the business of the central portions of the country was reduced to a state of relative inactivity during the winter. The steam railway was therefore required for the adequate economic development of Canada, more particularly for linking up with the economic and industrial world the vast productive areas of the Canadian West, and thus promoting their development. The construction of the Canadian Pacific Railway gave to Canada, as an economic unit, length; the building of the newer transcontinental railways has given the country breadth.

Railway transportation, though essential, is nevertheless expensive, particularly in recent years, and for bulky and weighty commodities. Hence new enterprises have either been undertaken or are under consideration for improving water communication, such as the new and deeper Welland canal, the deepening of the St. Lawrence canals and of the channel between Montreal and Quebec, and the development of the Hudson Bay route.

Problems of transportation are, therefore, of vital importance in the economic life of Canada, occupying a large part of the time and thought of our Parliaments and public men. Scarcely less important, from the social and the economic points of view, is the development of methods of communication in a country so vast and so thinly peopled. The Post Office has been a great though little recognized factor in promoting solidarity among the people of different parts of the Dominion, while telegraphs and telephones have gone far to annihilate distance; the rural telephone, in particular, has been of great social and economic benefit in country districts. The use of the automobile has also been of great benefit in promoting social intercourse and in facilitating the transaction of business among the dwellers of both urban and rural districts. The press, again, assisted by cheap telegraph and cable rates, and reaching, through the mails, all parts of the country, has been of use in developing national sentiment. To sum up, it may be said that the progress of modern inventions, not least among which is the radio, has greatly improved living conditions in both rural and urban communities throughout the Dominion.

In Part I of this chapter is included a statement of the tendencies toward monopoly which have made it necessary to establish a measure of government control over those transportation and communication agencies which are not governmentally-owned and operated; to this is added an account of the origin and

functions of the Board of Railway Commissioners. The subsequent parts deal in order with steam railways, electric railways, express companies, roads, motor vehicles, air navigation, canals, shipping, telegraphs, telephones and the Post Office.

PART I.—GOVERNMENT CONTROL OVER AGENCIES OF TRANSPORTATION AND COMMUNICATION.

Private enterprises engaged in the transportation and communication business in Canada have, in the past 50 years, shown the same tendency toward consolidation and amalgamation which has been evident elsewhere throughout the civilized world. The basic reason for such consolidation and amalgamation has been the fact that the business of transportation and communication is, generally speaking, a "natural monopoly", *i.e.*, a type of enterprise in which service can be more efficiently and economically rendered to the public where one or a few concerns control a particular type of service throughout the country. The outstanding example of these consolidations in Canada in our time is the concentration of control of the railways of the country in the hands of the Canadian Pacific Railway and the Canadian National Railway Companies.

However, since such control brings with it an element of monopoly and possible overcharge which is distasteful to the public, it has in Canada, as in other countries, been deemed advisable to set up authorities controlling the rates to be charged and the other conditions on which services to the public are to be rendered by common carriers. This control, so far as railways within the jurisdiction of the Dominion Government are concerned, has been placed in the hands of the Board of Railway Commissioners, whose authority has been extended to cover various other means of transportation and communication. A brief summary of the history and functions of this body follows on pp. 530-31.

Besides the Board of Railway Commissioners, dealing with the larger public utilities coming under the jurisdiction of the Dominion Government, there exist, in several of the provinces, bodies which undertake among their duties the supervision and control of local public utilities operating under the jurisdiction of the provinces, and the regulation of their rates for service. Among these is the Railway and Municipal Board of Ontario, established in 1906, which controls the construction, operation and maintenance of railways and the approving of their rates and their rules and regulations affecting the public. Similarly, in Quebec, a Commission of Public Utilities was established in 1909 and was given superintendence over all Quebec corporations, other than municipalities, "that own, operate, manage or control any system, works, plant or equipment for the conveyance of telegraph or telephone messages or for the conveyance of travellers or goods over a railway, street railway or tramway, or for the production, transmission, delivery or furnishing of heat, light or power, either directly or indirectly to or for the public". In Nova Scotia there is a Board of Commissioners of Public Utilities and in Manitoba a Public Utilities Commission with similar functions, while in the three westernmost provinces these same duties are performed by provincial Departments of Railways.

Due to changing conditions and increasing complexities in the transportation field, the Dominion Government appointed in 1931 a Royal Commission to inquire into the whole problem of transportation in Canada, particularly in relation to railways and shipping and communication facilities, having regard to present conditions and the probable future development of the country. (See p. 534.)

The Board of Railway Commissioners for Canada.¹

In the early days of railway building in Canada, the provinces were more concerned with rapid development than with rate regulation. Under the Railway Clauses Consolidation Act of 1851, rates were fixed by the directors of the railway, subject to the approval of the Governor in Council. Beyond this, competition was relied upon to bring rates to a reasonable level. As time went on, however, those who believed in the efficacy of competition as a regulator were disillusioned. For example, complaints were made that the Grand Trunk gave low through transit rates, say from Chicago to New York, through Canada, and recouped itself by high non-competitive rates in Upper Canada. In 1888 the supervision of rates was assigned to the Railway Committee of the Privy Council, sitting in Ottawa.

At the turn of the century, two reports were prepared for the Department of Railways and Canals by Professor S. J. McLean, the first setting down the experience of railway commissions in England and the United States, and the second discussing Canadian rate grievances, with a recommendation that regulation by commission be adopted in Canada. The second report found that non-competitive rates were exorbitant as compared with competitive rates and that the railways had exercised their right to vary rates without notice, to the great distress of shippers. Among the weaknesses of the Railway Committee as a rate-regulating body was its fixed station at Ottawa, which made the cost of appearing before it practically prohibitive. Besides, members of Parliament had no necessary aptitude for dealing with railway rates, and of their two functions—legislative and administrative—the legislative was to them the more important.

The Board of Railway Commissioners for Canada, as provided for by the amended Railway Act of 1903, was organized on Feb. 1, 1904. In the beginning, its membership consisted of a Chief Commissioner, a Deputy Chief and one Commissioner. In 1908 the membership was increased by the inclusion of an Assistant Chief Commissioner and two other Commissioners. According to the Act, the Board may be divided into two sections of three members, but since any two constitute a quorum, two Commissioners usually hear all but the more important cases, and, agreeing, give the decision of the Board.

The powers of the Commission, in brief, are in matters relating to the location, construction and operation of railways. The most important of these powers has to do with rate regulation. Passenger rates are divided into standard and special freight rates into standard, special and competitive. Standard rates are maximum rates and the only ones which must be approved by the Board before they are applied. Special and competitive rates, being less than maximum rates, may be applied by railways without the Board's approval, provided that a change of rates has been advertised. But important rate adjustments usually come to the notice of the Commission, for the changed rate alters the extent of the territory in which a shipper can compete and on this account he is apt to appeal the case to the Commission. It is a knotty problem to mark the boundaries of competitive areas—to decide whether Nova Scotian manufacturers should be given rates which would allow them to compete west of Montreal, or again, whether high construction and operation costs in British Columbia should enforce a rate which prevents her goods from moving far into the prairies. By an amendment to the Railway Act, the regulation of telephone, telegraph and express rates was given to the Commission, but with narrower powers than were given to it in dealing with railways.

¹ Revised by A. D. Cartwright, Secretary, Board of Railway Commissioners for Canada.

The procedure of the Board is informal, as suits the nature of its work, for experience has shown that hearings in strict legal form give the parties to the argument uncompromising attitudes. If possible, matters are settled by recommendations to the railway company or the shipper; thus, during 1930, 95 p.c. of the applications to the Board were settled without formal hearing. The Railway Committee had kept its station at Ottawa, giving only formal hearings, so that the grievances of those who could not afford to appear in person or pay counsel went unredressed. The itineraries of the Railway Commission are arranged so that evidence may be taken at the least expense to those giving it.

The Chief or Assistant Chief Commissioner, depending upon which one is presiding, gives final judgment on points of law when, in the opinion of the Commissioners, the question is one of law. On questions of fact the findings of the Board are final and are not qualified by previous judgments of any other court. Questions of law and jurisdiction are differentiated. In the first case, the Board may, if it wishes, allow an appeal to the Supreme Court; in the second, the applicant needs no permission to present his appeal.

The Railway Committee of the Privy Council, being a Committee of the Cabinet, was responsible to Parliament. When the powers of the Committee were made over to the Railway Commission the responsibility was retained, but necessarily by a different means. There is now provision for an appeal from any decision to the Governor General in Council, who may also of his own motion rescind or vary the action of the Board, but the power to rescind or vary usually consists in referring to the Board for reconsideration. From its inception until Dec. 31, 1931, the Board gave formal hearing to 9,966 cases. Its decision was appealed in 102 cases, 59 of these being to the Supreme Court of Canada and 43 to the Governor General in Council. Of the appeals 11 of those carried to the Supreme Court were allowed and 3 of those to the Governor General in Council.

PART II.—STEAM RAILWAYS.¹

Section 1.—Historical Sketch.

The first Canadian railway was constructed in 1836 between St. Johns and Laprairie, Quebec, with the object of shortening the journey between Montreal and New York. A second railway from Montreal to Lachine was opened in 1847, and a third line to St. Hyacinthe in 1848. In 1850, however, there were only 66 miles of railway in all Canada.

Commencement of the Railway Era—The Grand Trunk.—The railway era in Canada may be said to have begun in 1851, when an Act was passed providing for the construction of a main line of railway between the two Canadas. The result was the completion of the Grand Trunk Railway between Montreal and Toronto in 1856, its extension westward to Sarnia in 1859, and eastward to Rivière du Loup in 1860. The Atlantic and St. Lawrence Railway, from Portland, Maine, to the Canadian boundary, was leased for 999 years and in 1859, on the completion of the Victoria bridge across the St. Lawrence at Montreal, the Grand Trunk had a through route 800 miles long from Portland to Sarnia. A line from Detroit to Port Huron was leased in 1859, the Champlain roads in 1863, the Buffalo and Lake Huron in 1867, while the Chicago and Grand Trunk was completed from Port

¹ Revised and checked by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics. This branch publishes an annual report on Steam Railways, as well as numerous other reports, for a full list of which the reader is referred to Chapter XXIX of this volume.

Huron to Chicago in 1880. In 1881 the Georgian Bay and Lake Erie system (171 miles) was incorporated, and in the following year the Great Western (904 miles) and the Midland systems (473 miles) were also incorporated into the Grand Trunk. In 1888 the Northern Railway, which had been opened from Toronto to Barrie in 1853, and the Hamilton and Northwestern Railway were taken over by the Grand Trunk. In 1891 the completion of the St. Clair tunnel gave direct communication with the railways of the United States. In the 1870's the gauge had been changed from the original 5' 6" to the standard gauge of 4' 8½".

Construction of the Intercolonial.—An intercolonial railway between the Maritime Provinces and Canada had been proposed as early as the 1830's. In 1844 the Imperial Government made a survey for a military road, and in 1851 agreed to recommend to Parliament either a guarantee of interest or an advance of the sum required to build a railroad. Differences of opinion as to the route resulted in the project falling through, but in 1853 Nova Scotia undertook to construct by 1862 a trunk line from Halifax to the New Brunswick frontier, with branch lines to Pictou and Victoria Beach. In both Nova Scotia and New Brunswick, however, the scheme of an intercolonial railway broke down for lack of funds, and in 1867 there were only 374 miles of railway in the Maritimes—229 miles in New Brunswick, including lines from Saint John to Shediac and from St. Andrews to Richmond; 145 miles in Nova Scotia, including lines from Halifax to Truro and Windsor, and from Truro to Pictou. These, under the B.N.A. Act, passed to the Dominion Government. The latter undertook the completion of the railway, and in 1876 the line was opened. In 1879 the Rivière du Loup branch of the Grand Trunk was acquired, and in 1898 the Drummond Counties Railway from Chaudière Junction to Ste. Rosalie Junction was leased and running rights obtained from the latter point over the Grand Trunk tracks into Montreal, the Intercolonial thus becoming a competitor for the business of the commercial metropolis of Canada.

The First Transcontinental Railway—the C.P.R.—As early as 1849 a pamphlet published by Major Carmichael-Smyth advocated the construction of a Canadian Pacific railway nearly along the present route. In 1851 a Parliamentary Committee reported against undertaking the enterprise at that time. In 1871 the terms under which British Columbia entered Confederation bound the Dominion to commence the Pacific railway within two years and complete it within ten years. The building of the railway as a public work actually commenced in 1874, but was not very rapidly pushed forward. In 1880 the Government entered into a contract with the Canadian Pacific Railway syndicate, granting to the syndicate all portions of the line completed or under construction, a cash subsidy of \$25,000,000, a land grant of 25,000,000 acres, free admission of materials for construction, and protection for 20 years against competing lines. The company on its side agreed to complete the railway to a fixed standard by May 1, 1891, and thereafter to maintain it efficiently. As a matter of fact the last spike on the main line was driven on Nov. 7, 1885. Like the Grand Trunk, the Canadian Pacific Railway began to acquire branch lines as feeders, among them being the North Shore, Quebec, Montreal, Ottawa and Occidental in 1881, the Winnipeg to Manitou line in 1882, the Ontario and Quebec, the Credit Valley and the Toronto, Grey and Bruce in 1883, the St. Lawrence and Ottawa, and the Manitoba Southwestern in 1884, the North Shore, Nova Scotia, in 1885, the Atlantic and Northwest in 1886, the West Ontario Pacific in 1887, the Sudbury and Sault Ste. Marie in 1888, the New Brunswick Railway and the Columbia and Kootenay in 1890 and the Montreal and Ottawa and Montreal and Lake Maskinongé in 1892.

The Second Transcontinental—the Grand Trunk Pacific.—About the end of the century the Grand Trunk, which already had a line as far west as Chicago, submitted to the Canadian Government a proposal whereby it might participate in the settlement and development of the West. Lines were to be leased from Chicago *via* Minneapolis to Winnipeg and thence a new line, subsidized by the Government, would be built to the Pacific Coast. The Government raised objections to so much of the line lying in the United States and a second proposal was made for a connecting line with larger subsidies from North Bay to Winnipeg. The Government submitted, in 1903, a counter proposal that the line, instead of terminating at North Bay, should be continued east to Moncton, New Brunswick, the eastern section from Moncton to Winnipeg to be constructed by the Government and leased to the Grand Trunk Pacific for a 50-year period, the railway paying no rent for the first seven years and 3 p.c. on the cost of the railway for the remaining 43 years. The western half of the railway from Winnipeg to Prince Rupert was to be built by the Grand Trunk Pacific, the Government guaranteeing interest on bonds to 75 p.c. of the cost of construction, not exceeding \$13,000 per mile on the prairie section and \$30,000 per mile on the mountain section. The Grand Trunk reluctantly accepted this proposition and construction of the National Transcontinental and Grand Trunk Pacific commenced.

The Third Transcontinental—the Canadian Northern Railway.—The third transcontinental railway, the Canadian Northern, was begun in 1896 with the completion by Mackenzie and Mann of the 125-mile line of the Lake Manitoba Railway and Canal Co., chartered in 1889. The charters of the Winnipeg and Hudson Bay, the Manitoba and Southeastern, the Ontario and Rainy River, and the Port Arthur, Duluth and Western were next acquired. Assisted by the Manitoba Government, which desired to establish competition with the Canadian Pacific Railway, the Canadian Northern then secured the Manitoba lines of the Northern Pacific and in 1902 completed its line from Winnipeg to Port Arthur. During the following decade, the agricultural west was filling up very rapidly and with the public of Canada under the influence of this boom, the Canadian Northern Railway was able to secure guarantees of bonds from the Dominion and Provincial Governments to enable it to extend its lines both westward to Vancouver and eastward to Montreal and so complete the great scheme of a transcontinental road.

Effect of the War on the Railways—the Drayton-Acworth Report.—With two new transcontinental main lines, besides branches, under construction Canadian railway mileage was doubled between 1900 and 1915, increasing from 7,657 miles in the former year to 34,882 miles in the latter. The builders of the new lines, as well as the Canadian Government and people, had expected that immigration of capital and labour from Europe would rapidly settle the areas tributary to the new railroads and give them abundant and lucrative traffic, as had been the case with the C.P.R. Instead, the war came, and European labour and capital were conscripted for the struggle; immigration fell off, while cost of operation increased, owing to the scarcity of labour and material in Canada. The interest on the bonds had to be met, and in 1915 the Government felt it necessary to give assistance to the railways. In 1916, after having again made loans to the Grand Trunk Pacific Railway and the Canadian Northern Railway Co., a Royal Commission was appointed by Order in Council of July 13, 1916, to investigate: (1) the general problem of transportation, (2) the status of each of the three transcontinental systems, (3) the reorganization of any of the said systems, or their acquisition by the State, and (4) other matters considered by the Commission to

be relevant to the general scope of the inquiry. Alfred Holland Smith of New York, Sir Henry Drayton of Ottawa and Sir George Paish of London, England, were originally appointed to the Commission. On the resignation of the latter, William M. Acworth, a distinguished English authority on railways, was appointed to take his place. The majority report of the Commission, signed by Sir Henry Drayton and Mr. Acworth, has formed the basis of the subsequent railway policy of Canada. Their recommendation was that the public should take control of the Canadian Northern, of the Grand Trunk Pacific and the Grand Trunk proper, and that they should be administered on purely business principles by a board of trustees such compensation as seemed proper to be decided by arbitration and given to the shareholders of the Canadian Northern and the Grand Trunk.

The process of the acquisition of these railways and the financial results of their operation down to the end of 1930 are described in Section 3, pp. 548 to 558 of this volume.

During 1930 and 1931 both freight and passenger traffic declined until new low records were being established each succeeding month. Freight and passenger revenues consequently decreased at alarming rates and with increasing capital expenditures and fixed charges, the financial condition of Canadian railways demanded readjustment. The dividend rate of the Canadian Pacific Railway was reduced from 10 p.c. to 5 p.c. for the second and fourth quarters of 1931 and early in 1931 it was evident that the Canadian National system would not earn the interest due on public holdings of its debentures exclusive of over \$32,000,000 interest on Government loans. To study the situation and, if possible, to remedy it, the Dominion Government appointed a Royal Commission by Order in Council P.C. 2910 dated Nov. 20, 1931. The Commission, under the Chairmanship of the Rt. Hon. Lyman P. Duff, Judge of the Supreme Court of Canada, held hearings throughout the country and are now preparing their report to the Government.

Section 2.—Statistics of Steam Railways.

The steam railways of the world may be said to have commenced their operations with the opening of the Stockton and Darlington Railway in England on Sept. 26, 1825. In the intervening century, the mileage of the steam railways of the world has increased to an estimated total of 785,925 miles, of which figure 286,232 miles are State railways. Of the total, nearly one-third, or 249,099 miles is in the United States. Canada is second with 41,739 miles (exclusive of 336 miles of Canadian railways in the United States) and British India third with 41,724 miles. Germany has 36,231 miles, France 33,208 miles, Russia in Europe 36,938 miles, Russia in Asia 11,298 miles, Australia 28,151 miles, Great Britain and Ireland 24,185 miles, Argentina 23,795 miles, Brazil 19,835 miles and Mexico 17,224 miles.¹ Canada has an average of 224 persons per mile of her railway lines.

The mileage of steam railways in operation in Canada is given by single year for each year from 1850 to 1930 in Table 1, showing the first great period of construction in the 1850's, when the mileage grew from 66 to 2,065, the lull in the 1860's, the second great period of construction in the 1870's and 1880's, the lull in the 1890's, the third great period of construction between 1900 and 1915 and the subsequent falling-off in the rate of increase.

¹ From Slason Thompson's *Railway Statistics of the United States of America*, 1930, p. 32 with corrections for Canada and United States.

1.—Record of Steam Railway Mileage as at June 30, 1835-1919, and Dec. 31, 1919-30.

Year.	Miles in Operation.	Year.	Miles in Operation.	Year.	Miles in Operation.	Year.	Miles in Operation.	Year.	Miles in Operation.	Year.	Miles in Operation.
	No.		No.		No.		No.		No.		No.
1835....	—	1861....	2,146	1875....	4,804	1889....	12,628	1903....	18,988	1917....	38,369
1836-46.	16	1862....	2,189	1876....	5,218	1890....	13,151	1904....	19,431	1918....	38,252
1847-49.	54	1863....	2,189	1877....	5,782	1891....	13,838	1905....	20,487	1919....	38,330
1850....	66	1864....	2,189	1878....	6,226	1892....	14,564	1906....	21,423	1919....	38,496
1851....	159	1865....	2,240	1879....	6,853	1893....	15,005	1907....	22,446	1920....	38,806
1852....	205	1866....	2,278	1880....	7,194	1894....	15,627	1908....	22,966	1921....	39,192
1853....	506	1867....	2,278	1881....	7,331	1895....	15,977	1909....	24,104	1922....	39,360
1854....	764	1868....	2,270	1882....	8,697	1896....	16,270	1910....	24,731	1923....	39,665
1855....	877	1869....	2,524	1883....	9,577	1897....	16,550	1911....	25,400	1924....	40,061
1856....	1,414	1870....	2,617	1884....	10,273	1898....	16,870	1912....	26,840	1925....	40,352
1857....	1,444	1871....	2,695	1885....	10,773	1899....	17,250	1913....	29,304	1926....	40,552
1858....	1,863	1872....	2,899	1886....	11,793	1900....	17,657	1914....	30,795	1927....	40,572
1859....	1,994	1873....	3,832	1887....	12,184	1901....	18,140	1915....	34,882	1928....	41,024
1860....	2,065	1874....	4,331	1888....	12,163	1902....	18,714	1916....	36,985	1929....	41,409
										1930....	42,075

The mileage in the different provinces is given for recent years in Table 2. Construction was most active in Saskatchewan and Alberta, as will be seen from the increased mileage recorded by these provinces during the period covered. For the latest years construction has been most active in Saskatchewan and Manitoba.

2.—Steam Railway Mileage, by Provinces, Dec. 31, 1922-30.

Province.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	miles.	miles.	miles.	miles.	miles.	miles.	miles.	miles.	miles.
Single Track—									
Prince Edward Island....	278	277	276	276	276	276	276	276	286
Nova Scotia.....	1,451	1,447	1,427	1,427	1,426	1,424	1,421	1,420	1,418
New Brunswick.....	1,948	1,947	1,942	1,935	1,935	1,935	1,935	1,934	1,934
Quebec.....	4,920	4,919	4,882	4,797	4,767	4,859	4,910	4,891	4,891
Ontario.....	10,940	10,957	10,947	10,908	10,870	10,834	10,866	10,872	10,938
Manitoba.....	4,527	4,521	4,520	4,540	4,296	4,293	4,293	4,294	4,420
Saskatchewan.....	6,438	6,518	6,942	7,056	7,268	7,358	7,551	7,761	8,166
Alberta.....	4,567	4,784	4,818	4,965	5,048	5,139	5,307	5,543	5,607
British Columbia.....	3,960	3,966	3,976	4,117	4,072	4,060	4,071	4,024	4,021
Yukon.....	58	58	58	58	58	58	58	58	58
In United States.....	273	273	273	273	336	336	336	336	336
Totals, Single Track.....	39,360	39,665	40,061	40,352	40,352	40,572	41,024	41,409	42,075
Second track.....	2,608	2,591	2,619	2,614	2,620	2,647	2,639	2,659	2,690
Industrial track.....	—	—	—	1,555	1,591	1,611	1,662	1,607	1,623
Yard track and sidings....	9,892	9,680	10,012	9,579	9,716	9,887	10,130	10,193	10,254
Grand Totals, All Tracks	51,860	51,936	52,692	54,100	54,279	54,717	55,455	55,868	56,642

Capital Liability.—The capital liability of the steam railways of Canada is shown in Table 3 for the years 1901 to 1930. The great increase after 1922 is due to the inclusion of all Government loans to railways and investment in road and equipment of Government railways as part of the capital liability of the railways. Statistics of individual lines are given in Table 4.

3.—Capital Liability of Steam Railways, June 30, 1901-19, and Dec. 31, 1919-30.

NOTE.—Corresponding figures for each year from 1876 to 1900 inclusive are given on p. 649 of the 1927-28 Year Book.

Year.	Stocks.	Funded Debt.	Total.	Year.	Stocks.	Funded Debt.	Total.
	\$	\$	\$		\$	\$	\$
1901...	424,414,314	391,696,523	816,110,837	1916...	1,024,264,325	868,861,449	1,893,125,774
1902...	460,401,863	404,806,847	865,208,710	1917...	1,089,114,875	896,005,116	1,985,119,991
1903...	483,770,312	424,100,762	907,871,074	1918...	1,093,885,495	905,994,999	1,999,880,494
1904...	492,752,530	449,114,035	941,866,565	1919...	1,100,301,195	914,823,515	2,015,124,710
1905...	526,353,951	465,543,967	991,897,918	1919...	1,104,409,122	931,756,484	2,036,165,606
1906...	561,655,395	504,226,234	1,065,881,629	1920...	1,323,705,962	846,324,166	2,170,030,128
1907...	588,568,591	583,369,217	1,171,937,808	1921...	1,372,545,165	792,142,471	2,164,687,636
1908...	607,891,349	631,869,664	1,239,761,013	1922...	1,415,623,322	743,653,809	2,159,277,131
1909...	647,534,647	660,946,769	1,308,481,416	1923...	1,385,080,426	1,879,593,612 ¹	3,264,674,038 ¹
1910...	687,557,387	722,740,300	1,410,297,687	1924...	1,401,263,285	2,012,602,328 ¹	3,413,865,613 ¹
1911...	749,207,687	779,481,514	1,528,689,201	1925...	1,378,706,860	2,092,374,049 ¹	3,471,080,909 ¹
1912...	770,459,351	818,478,175	1,588,937,526	1926...	1,381,762,345	2,179,186,587 ¹	3,560,948,932 ¹
1913...	918,573,740	613,256,952	1,531,830,692	1927...	1,350,249,167	2,287,588,330 ¹	3,637,837,497 ¹
1914...	1,026,418,123	782,402,638	1,808,820,761	1928...	1,376,951,622	2,345,524,629 ¹	3,722,476,251 ¹
1915...	1,024,085,983	851,724,905	1,875,810,888	1929...	1,426,680,988	2,539,676,366 ¹	3,966,357,355 ¹
				1930...	1,455,492,922	2,645,631,921 ¹	4,101,124,843 ¹

¹Includes all Government loans to railways and investment in road and equipment of Dominion and provincial railways.

4.—Mileage, Capital Liability, Earnings and Operating Expenses of Individual Steam Railways for the calendar year 1920.

Railway.	Single Track Mileage.	Capital Liability.	Gross Earnings from Operation.	Operating Expenses.
	miles.	\$	\$	\$
Algoma Central and Hudson Bay.....	323.75	25,679,513	1,799,794	1,741,293
Algoma Eastern.....	86.13	5,226,500	763,499	393,242
Alma and Jonquière.....	10.60	629,800	81,037	75,023
Brandon, Sask. and Hudson Bay.....	84.75	2,602,000	80,658	147,255
British Yukon.....	90.32	4,978,879	169,628	121,794
Burrard Inlet Tunnel and Bridge Co.....	—	1,600,681	—	—
Canada and Gulf Terminal.....	38.10	1,740,000	126,281	93,722
Canada Southern.....	381.04	44,365,000	19,108,554	12,615,201
Canadian National.....	18,598.79 ¹	—	184,848,028	163,473,542
“ “ Eastern Lines.....	3,342.39	—	28,598,553	33,028,516
“ “ Totals.....	21,941.18 ¹	2,776,040,951 ²	213,446,581	196,502,058
Canadian Pacific.....	15,106.20	945,697,165 ²	180,022,387	138,523,657
Receivers of Central Vermont Ry. Co.....	—	—	17,034	22,006
Central Vermont Railway, Inc.....	25.33 ¹	197,300 ³	206,572	208,774
Crow's Nest Southern.....	53.32	4,295,000	47,037	85,089
Cumberland Railway and Coal Co.....	31.29	1,339,399	213,644	142,152
Detroit River Tunnel Co.....	3.26	21,000,000	—	—
Dominion Atlantic.....	304.54	8,431,500	1,920,007	1,807,656
Eastern British Columbia.....	13.04	420,000	76,702	68,866
Esquimalt and Nanaimo.....	209.70	—	1,315,782	890,545
Essex Terminal.....	21.44	1,120,000	316,936	208,577
Fredericton and Grand Lake Coal and Ry. Co.....	31.10	605,000	111,895	76,135
Greater Winnipeg Water District.....	92.00	1,787,939	89,587	97,209
International Bridge and Terminal Co.....	1.06	300,000	—	—
Kettle Valley.....	404.61	15,960,000	2,130,772	1,620,739
Maine Central.....	5.10	100,992	15,554	18,547
Maritime Coal, Railway and Power Co.....	16.40	2,351,000	113,084	76,305

¹Canadian lines only. ²Including capital of leased lines. ³Including only capital of lines leased in Canada.

4.—Mileage, Capital Liability, Earnings and Operating Expenses of Individual Steam Railways for the calendar year 1930—concluded.

Railway.	Single Track Mileage.	Capital Liability.	Gross Earnings from Operation.	Operating Expenses.
	miles.	\$	\$	\$
Massawippi Valley.....	5	800,000	—	—
Midland Railway of Manitoba.....	75·76	4,800,000	360,950	386,985
Montreal and Atlantic.....	184·60	5,518,000	1,611,794	1,621,009
Morrissey, Fernie and Michel.....	5·37	1,263,000	85,581	85,073
Napierville Junction.....	43·04	600,000	676,333	377,120
Nelson and Fort Sheppard.....	60·79	2,846,800	56,793	82,189
New Brunswick Coal and Railway Co.....	59·20	1,605,062	56,439	87,372
Nipissing Central ¹	59·74	—	215,425	195,291
Northern Alberta.....	877·56	34,430,000	2,253,739	1,952,390
Ottawa and New York.....	58·77	2,100,000	223,322	298,811
Pacific Great Eastern.....	348·10	66,098,866	480,071	535,887
Père Marquette (including L.E.D.R.).....	336·88	7,400,000	4,836,001	2,957,892
Quebec Central.....	358·02	13,071,676	2,466,249	2,059,904
Quebec Railway, Light and Power Co.....	25·55	4,915,670	554,654	474,656
Roberval-Saguenay.....	44·78	3,330,000	350,097	262,745
St. Lawrence and Adirondack.....	60·26	2,155,567	891,335	350,432
Saint John Bridge and Ry. Extension.....	e	758,900	—	—
Sydney and Louisburg.....	73·90	4,843,712	1,492,225	1,028,928
Temiscouata.....	113·00	3,856,336	337,659	305,848
Temiskaming and Northern Ontario ¹	442·30	39,507,935	4,954,983	3,609,349
Thousand Islands.....	4·51	60,000	51,205	52,107
Toronto, Hamilton and Buffalo.....	111·03	10,695,000	3,266,916	2,255,405
Van Buren Bridge Co.....	0·36	500,000	—	—
Vancouver, Victoria and Eastern.....	247·67	23,500,000	558,378	614,689
Wabash (in Canada).....	245·40	—	6,278,476	5,093,485
Totals, (including trackage rights duplications).....	43,110·85	4,101,124,843	454,231,650	380,723,412
Canadian National (Can. and U.S.).....	23,767·96	—	250,368,998	228,288,023

¹Constructed and operated by Ontario Government Railway Commission. ²Included with Quebec Central. ³Included with Canadian Pacific.

Capital Investment.—The capital investment in road and equipment of Canadian steam railways is shown in Table 5 for the calendar years 1925-1930. The table gives the investment in new lines and in additions and betterments during the year, together with the cumulative total of such investments as at the end of each year. During 1930, \$24,965,375 was invested in new lines and \$77,056,393 in additions and betterments, while up to Dec. 31, 1930, a total of \$3,243,222,280 had been invested in road and equipment of Canadian steam railways. When comparison is made with the figures of Table 3, it is seen that the capital liability of the steam railways was considerably greater than the actual investment in physical property by the railways at the same date. This discrepancy is largely accounted for by the fact that the total of capital liabilities as shown in Table 3 includes loans and advances from the Government to cover deficits of the Canadian National Railways and unpaid accrued interest on such loans, which up to December 31, 1930 amounted to \$322,155,902 as shown in Table 22 and in the years 1919 to 1922 had amounted to about \$264,000,000. A further factor in the discrepancy is that some of the outstanding railway stocks represent no actual investment in physical property.

5.—Capital Invested in Road and Equipment of Canadian Steam Railways, calendar years 1925-30.

Investment.	1925.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$	\$
New Lines—						
Road.....	10,353,357	10,030,081	14,488,059	30,003,540	37,210,328	24,397,606
Equipment... Cr.	3,399	129,645	448,649	351,447	31,125	31,167
General.....	2,442,175	277,356	2,807,259	488,806	869,773	536,602
Totals.....	12,792,133	10,437,082	17,743,967	30,843,793	38,111,226	24,965,375
Additions and Betterments—						
Road.....	15,251,545	19,515,536	32,188,136	33,682,796	44,445,646	40,885,501
Equipment.....	1,629,939	2,121,625	20,081,275	11,432,446	59,240,026	32,839,029
General..... Cr.	95,460	2,387,982	138,644	2,659,759	3,210,802	3,380,538
Undistributed	702,450	1,089,943	Cr. 74,948	Cr. 75,020	30,211	Cr. 48,663
Totals.....	17,488,474	25,115,086	52,333,107	47,699,981	106,926,685	77,056,393
Undistributed.. Cr.	178,020	Cr. 15,415,510 ¹	1,598,437	Cr. 15,292,546 ²	Cr. 8,825,153 ³	Cr. 12,150,046 ⁴
Totals, Investments, as at Dec. 31.....	2,862,074,403	2,882,211,061	2,953,886,572	3,029,059,995	3,153,350,558	3,243,222,280

¹Includes a credit of \$14,944,515 on account of Hudson Bay Railway which was not operated and returned to Dominion Government for completion.

²Includes a credit of \$13,477,505 on account of Canadian National property transferred to Harbour Commissions of Halifax and Saint John.

³Includes difference between purchase price of Atlantic, Quebec and Western; Kent Northern; Quebec, Montreal and Southern; and Quebec Oriental Railways and investment reported in 1928—a credit for \$7,198,024; difference between valuation of Northern Alberta Railways and investment of Alberta and Great Waterways; Central Canada; Edmonton, Dunvegan and British Columbia; and Pembina Valley Railways as at June 30, 1929—a credit of \$5,639,429; a credit of \$1,869,859 for the Hereford Railway which ceased operation; and additions and betterments to separately operated properties and other undistributed items amounting to a debit of \$5,882,159.

⁴Credit of \$18,180,692 for Canadian Northern and Grand Trunk Pacific rails lifted during the war for use in France and other lines dismantled after consolidation of the Canadian National system.

Summary of Traffic Statistics.—A summary of freight and passenger traffic statistics and of the ratio of operating expenses to gross earnings, continuing a series which has been compiled since 1875, will be found for the years 1911 to 1930 in Table 6. This table has, however, the defect that its figures of passengers and freight carried are not comparable throughout but have been reduced as a result of the consolidation of railways. Better tests of the real volume of passenger and freight traffic are supplied in Table 9 of this chapter under the headings "Passengers carried one mile" and "Freight carried one mile". These records, commencing in 1915, show that the maximum volume of passenger traffic was reached in the calendar year 1919 and the maximum volume of freight traffic in 1928. Both freight and passenger traffic, especially passenger traffic, have in recent years been affected by the increase in the use of motor vehicles.

The statistics of gross earnings and operating expenses illustrate the difficulties confronting our railways in recent years. Before the war it was generally held that, on account of the enormous initial investment required in roadbed and equipment, a railway's operating expenses should not exceed about two-thirds or 70 p.c. of its gross earnings, the remainder being required to meet interest on capital invested, whether in stocks or bonds, as well as to provide for necessary improvements. The ratio of operating expenses to gross earnings is called the operating ratio, and in 1913 the Canadian operating ratio was 70.90 p.c. The new conditions of the war period, especially the higher cost of labour and of fuel, swelled the operating ratio,

in spite of advances in freight and passenger rates, until in 1920 it reached 97·18 p.c. For 1928 there was a decline to a ratio of 78·53 which grew to 81·08 in 1929 and 83·86 in 1930. Although operating expenses for 1930 were lower than in 1929 on account of the decreases in both freight and passenger traffic, the gross revenues showed a much greater decline which reduced the net operating revenues by \$27,520,693 and increased the operating ratio.

In Table 7 will be found an analysis of the distribution of the operating expenses of steam railways for the latest four years. The earnings and operating expenses per mile of line and per train-mile are analysed in Table 8.

6.—Summary of Steam Railway Statistics of Freight and Passenger Traffic, and Ratio of Expenses to Earnings, years ended June 30, 1911-19, and calendar years 1919-30.

NOTE.—These statistics were published for the years 1875-1910 on p. 434 of the 1916-17 Year Book, and for 1901-10 on p. 591 of the 1926 Year Book.

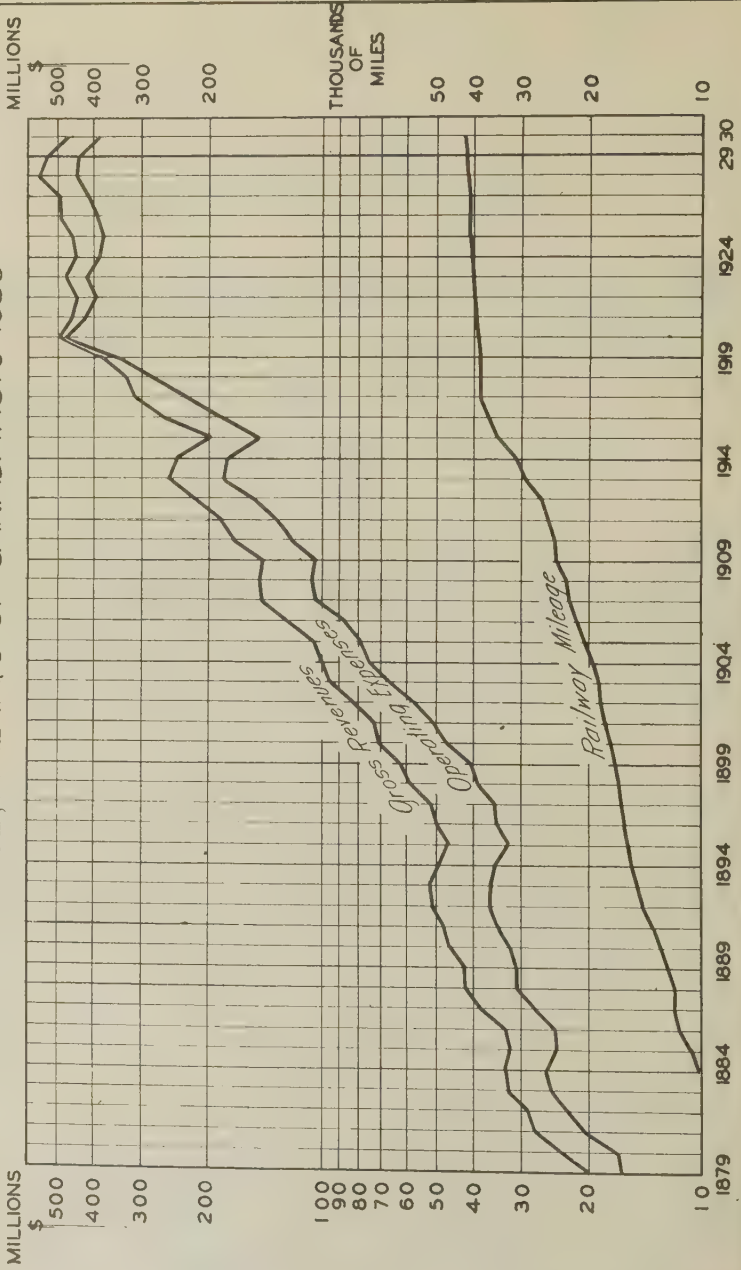
Year.	Miles in Operation.	Total Train-Miles.	Passengers Carried. ¹	Freight Carried. ¹	Gross Earnings.	Operating Expenses.	Ratio of Expenses to Receipts.
	No.	No.	No.	tons.	\$	\$	p.c.
1911.....	25,400	89,716,533	37,097,718	79,884,282	188,733,494	131,034,785	69·43
1912.....	26,727	100,930,271	41,124,181	89,444,331	219,403,753	150,726,540	68·70
1913.....	29,304	113,437,208	46,185,968	106,992,710	256,702,703	182,011,690	70·90
1914.....	30,795	107,895,272	46,702,280	101,393,989	243,083,539	178,975,259	73·63
1915.....	35,582	93,218,479	46,322,035	87,204,838	199,843,072	147,731,099	73·92
1916.....	37,434	111,075,890	43,503,459	100,659,088	261,888,654	180,542,259	68·94
1917.....	38,604	115,797,100	48,106,530	121,916,272	310,771,479	222,890,637	71·72
1918.....	38,484	109,857,560	44,948,638	127,543,687	330,220,150	273,955,436	82·96
1919.....	38,501	103,832,835	43,754,194	116,699,572	382,976,901	341,866,509	89·27
1919 (Dec. 31).....	38,663	107,053,735	47,940,456	111,487,780	408,598,361	376,789,093	92·26
1920 (").....	38,976	117,384,819	51,318,422	127,429,154	492,101,104	478,248,154	97·18
1921 (").....	39,363	104,652,167	46,793,251	103,131,132	458,008,891	422,581,205	92·25
1922 (").....	39,360	107,625,144	44,383,620	108,530,518	440,687,128	393,927,406	89·39
1923 (").....	39,665	113,907,613	44,834,337	118,289,604	478,338,647	413,862,818	86·52
1924 (").....	40,061	110,032,845	42,921,809	106,429,355	445,923,877	382,483,908	85·77
1925 (").....	40,352	109,289,865	41,458,084	109,850,925	455,297,288	372,149,656	81·70
1926 (").....	40,352	113,538,876	42,686,166	122,476,822	493,599,754	389,503,452	78·91
1927 (").....	40,572	116,895,751	41,840,550	125,967,439	499,064,207	407,640,280	81·68
1928 (").....	41,024	125,034,253	40,592,792	141,230,026	563,732,260	442,701,270	78·53
1929 (").....	41,409	117,645,670	39,070,843	137,855,151	534,106,045	433,077,113	81·08
1930 (").....	42,075	107,620,076	34,698,767	115,229,511	454,231,650	380,723,411	83·86

¹Duplications included. See Table 9.

7.—Distribution of Operating Expenses of Steam Railways, calendar years 1927-30.

Item of Expenditure.	1927.		1928.		1929.		1930.	
	\$	p.c.	\$	p.c.	\$	p.c.	\$	p.c.
Way and structures.....	86,436,213	21·24	97,763,472	22·08	94,021,972	21·71	78,035,587	20·50
Equipment.....	93,801,950	23·00	101,945,151	23·02	100,133,913	23·12	82,123,281	21·57
Traffic expenses.....	17,668,103	4·33	17,995,239	4·07	18,431,366	4·26	18,942,728	4·97
Transportation.....	192,241,574	47·14	208,049,857	47·00	202,944,180	46·86	183,813,325	48·28
General and misc. expenses	17,498,440	4·29	16,947,551	3·83	17,545,682	4·05	17,808,490	4·68
Totals.....	407,646,280	100·00	442,701,270	100·00	433,077,113	100·00	380,723,411	100·00

GROSS REVENUES, OPERATING EXPENSES AND MILEAGE, RAILWAYS OF CANADA, 1879-1930



8.—Earnings and Operating Expenses of Steam Railways per Mile of Line and per Train Mile, for the years ended June 30, 1915-19, and the calendar years 1919-30.

Year.	Per Mile of Line.			Per Train Mile.	
	Gross Earnings.	Operating Expenses.	Net Earnings.	Gross Earnings.	Operating Expenses.
	\$	\$	\$	\$	\$
1915 (June 30).....	5,616	4,152	1,464	2-144	1-585
1916 (").....	6,943	4,823	2,120	2-358	1-623
1917 (").....	8,051	5,774	2,277	2-683	1-925
1918 (").....	8,581	7,119	1,462	3-006	2-494
1919 (").....	9,947	8,879	1,068	3-683	3-292
1919 (Dec. 31).....	10,568	9,745	923	3-817	3-520
1920 (").....	12,626	12,270	356	4-192	4-074
1921 (").....	11,636	10,735	901	4-376	4-038
1922 (").....	11,196	10,008	1,188	4-095	3-660
1923 (").....	12,098	10,434	1,664	4-199	3-630
1924 (").....	11,233	9,548	1,685	4-053	3-473
1925 (").....	11,383	9,222	2,161	4-166	3-402
1926 (").....	12,278	9,653	2,625	4-347	3-431
1927 (").....	12,350	10,047	2,303	4-269	3-487
1928 (").....	13,840	10,791	3,049	4-509	3-541
1929 (").....	13,068	10,458	2,472	4-540	3-681
1930 (").....	10,897	9,049	1,747	4-221	3-538

A summary analysis of passenger and freight traffic statistics for recent years is given in Table 9, showing among other things a decline in average receipts per passenger per mile from 3.04 cents in 1921 to 2.76 cents in 1930, and a decline in the average number of passengers per train from 70 in 1919 and 64 in 1920 to 48 in 1930. Similarly, freight traffic statistics show a reduction in freight receipts per ton per mile from 1.200 cents in 1921 to 1.090 cents in 1930. The average haul for freight has been revised to show the average for all railways instead of for each railway, thereby eliminating the effects of consolidations of railways and of inter-changing freight between Canadian railways. The passenger traffic has shown the effects of the competition of motor vehicles, both public and private, which in 1915, numbered less than 100,000, while in 1930 they numbered over 1,200,000. The average revenue per passenger increased in 1918 and 1919 with increases in rates, but the increases in later years have been largely due to decreases in the short haul traffic. The increases in freight train loading and train revenues have been due to the use of larger and more powerful locomotives.

9.—Summary Analysis of Statistics of Passenger and Freight Services and Receipts, for the years ended June 30, 1915-19, and the calendar years 1919-30.

PASSENGERS.

Year.	Passengers Carried.	Passengers Carried one Mile.	Passengers Carried one Mile per Mile of Line.	Average Receipts per Passenger Mile.
	No.	No.	No.	cents.
1915 (June 30).....	46,322,035	2,483,708,745	69,802	2-02
1916 (").....	43,503,459	2,727,122,048	72,611	1-95
1917 (").....	48,106,530	3,150,127,428	79,829	1-95
1918 (").....	44,948,638	3,161,082,402	82,140	2-12
1919 (").....	43,754,194	3,074,664,369	79,859	2-56
1919 (Dec. 31).....	47,940,456	3,658,492,716	94,625	2-63
1920 (").....	51,318,422	3,522,494,856	90,376	2-92
1921 (").....	46,793,251	2,960,583,955	75,219	3-04
1922 (").....	44,383,620	2,814,113,531	71,497	2-82
1923 (").....	44,834,337	3,076,341,444	77,805	2-76
1924 (").....	42,921,809	2,872,333,579	72,355	2-79
1925 (").....	41,458,084	2,910,760,047	72,771	2-69
1926 (").....	42,686,166	2,998,952,309	74,595	2-71
1927 (").....	41,840,550	3,051,784,039	75,522	2-69
1928 (").....	40,592,792	3,140,860,693	77,110	2-67
1929 (").....	39,070,893	2,897,214,817	70,883	2-77
1930 (").....	34,698,767	2,422,874,877	58,123	2-76

9.—Summary Analysis of Statistics of Passenger and Freight Services and Receipts, for the years ended June 30, 1915-19, and the calendar years 1919-30—concluded.

PASSENGERS—concluded.

Year.	Average Receipts per Passenger.	Average Passenger Journey in Miles.	Average Number of Passengers per Train.	Passenger Train Revenue per Passenger Train Mile.
	\$	miles.	No.	\$
1915 (June 30).....	1.08	54	50	1.02
1916 (").....	1.08	55	53	1.04
1917 (").....	1.14	59	59	1.16
1918 (").....	1.49	70	64	1.71
1919 (").....	1.80	70	63	2.01
1919 (Dec. 31).....	2.01	76	70	2.26
1920 (").....	2.00	68	64	2.36
1921 (").....	1.92	63	57	2.30
1922 (").....	1.79	63	55	2.10
1923 (").....	1.90	69	64	2.51
1924 (").....	1.87	67	59	2.34
1925 (").....	1.89	70	60	2.33
1926 (").....	1.90	70	61	2.41
1927 (").....	1.96	73	61	2.38
1928 (").....	2.06	77	61	2.38
1929 (").....	2.06	74	56	2.33
1930 (").....	1.92	70	48	2.02

FREIGHT.

Year.	Freight Carried. ¹	Freight Carried one Mile.	Freight Carried one Mile per Mile of Line.	Freight Receipts per Ton per Mile.
	tons.	tons.	tons.	cents.
1915 (June 30).....	71,498,170	17,661,309,723	496,355	0.751
1916 (").....	89,237,156	28,195,364,264	753,202	0.653
1917 (").....	98,464,694	31,186,707,851	807,948	0.690
1918 (").....	102,425,410	31,029,072,279	806,285	0.736
1919 (").....	95,202,121	27,724,397,202	720,096	0.962
1919 (Dec. 31).....	91,349,595	26,950,598,322	697,064	1.003
1920 (").....	100,050,046	31,894,411,479	818,309	1.071
1921 (").....	83,730,829	26,621,630,554	676,311	1.200
1922 (").....	87,309,036	30,367,885,883	771,542	1.039
1923 (").....	102,258,933	34,067,658,527	861,622	0.987
1924 (").....	91,599,639	30,513,819,106	768,649	1.019
1925 (").....	94,624,599	31,965,204,683	799,150	1.012
1926 (").....	105,221,906	34,153,466,033	849,525	1.043
1927 (").....	106,011,355	34,901,652,515	863,710	1.029
1928 (").....	118,652,969	41,610,660,776	1,021,572	0.994
1929 (").....	115,187,028	35,025,895,433	856,945	1.099
1930 (").....	96,194,017	29,604,545,125	710,197	1.090

Year.	Receipts per Ton Hauled.	Average Length of Freight Haul in Miles.	Average Train Load in Net Tons.	Average Load per Loaded Car Mile.	Revenue per Freight Train Mile.
	\$	miles.	tons.	tons.	\$
1915 (June 30).....	1.52	247	344	18.43	2.28
1916 (").....	1.68	316	411	20.91	2.69
1917 (").....	1.77	317	436	22.24	3.01
1918 (").....	1.79	303	457	23.10	3.36
1919 (").....	2.29	291	442	23.46	4.26
1919 (Dec. 31).....	2.43	295	434	22.21	4.36
1920 (").....	2.68	319	457	23.05	4.89
1921 (").....	3.10	318	447	22.12	5.37
1922 (").....	2.91	348	481	23.03	5.00
1923 (").....	2.84	333	512	26.44	5.05
1924 (").....	2.92	337	494	25.45	5.03
1925 (").....	2.95	338	519	25.11	5.25
1926 (").....	2.91	325	519	25.07	5.41
1927 (").....	2.85	329	514	25.30	5.29
1928 (").....	2.93	351	557	25.96	5.54
1929 (").....	2.79	304	523	24.52	5.74
1930 (").....	2.80	308	509	24.34	5.55

¹Duplications eliminated.

Railway Wages and Salaries.—The number of railway employees and the amount of their remuneration are naturally affected by the volume of traffic, which tends to rise in periods of active business conditions and fall in times of depression. The volume of traffic is also very directly affected by the size of the grain crops in the West. Thus it may be observed in Table 10 that the very favourable industrial and agricultural conditions of 1928 resulted in a considerable increase in the number of employees. The depression in 1929 and 1930 resulted in a reduction in the pay roll chargeable to operating expenses of \$13,129,022 during these two years.

Largely because of inflated monetary conditions, the amount of salaries and wages reached a peak in 1920, but, as will be seen from Table 10, the wage bill increased from 1911 to 1920 to a much greater extent than the number of employees, *viz.*, by 289 p.c., while employees increased by only 31 p.c. By a revision in 1926, the pay roll includes both operating and construction or capital accounts and consequently the data are not directly comparable with data for previous years.

10.—Number of Steam Railway Employees, Amount of Salaries and Wages, and Ratios of the Latter to Gross Earnings and Operating Expenses, for years ended June 30, 1911-19, and for calendar years, 1919-30.

Year.	Employees.	Salaries and Wages.	Ratio to Gross Earnings.	Ratio to Operating Expenses.
	No.	\$	p.c. ²	p.c.
1911 (June 30).....	141,224	74,613,738	39.53	56.94
1912 (").....	155,901	94,237,623	39.79	57.92
1913 (").....	178,652	115,749,825	45.09	63.59
1914 (").....	159,142	111,762,972	45.97	62.43
1915 (").....	124,142	90,215,727	45.15	61.09
1916 (").....	144,770	104,300,647	39.82	57.95
1917 (").....	146,175	129,626,187	41.85	58.34
1918 (").....	143,493	152,274,953	46.14	55.59
1919 (").....	158,777	208,939,995	54.56	61.12
1919 (Dec. 31).....	173,728	233,323,074	57.10	61.92
1920 (").....	185,177	290,510,518	59.04	60.74
1921 (").....	167,627	247,756,138	54.09	58.63
1922 (").....	165,635	233,294,040	52.94	59.20
1923 (").....	178,052	253,320,005	52.96	61.21
1924 (").....	169,970	239,864,265	53.79	62.71
1925 (").....	166,027	237,755,752	52.25	63.85
1926 (").....	174,266 ¹	253,412,424 ¹	45.74 ²	57.97 ²
1927 (").....	176,338 ¹	267,067,048 ¹	48.11 ²	58.90 ²
1928 (").....	187,710 ¹	287,775,316 ¹	46.95 ²	59.79 ²
1929 (").....	187,846 ¹	290,732,500 ¹	48.85 ²	60.24 ²
1930 (").....	184,485 ¹	268,347,374 ¹	55.38 ²	66.07 ²

¹Owing to changes in classification, the figures for 1926, 1927, 1928, 1929 and 1930 include 8,792, 8,360, 11,657, 13,396 and 13,102 employees respectively, with salaries and wages of \$9,075,602, \$8,391,797, \$13,218,742, \$15,096,199 and \$14,663,500 respectively, engaged in outside operations and in classes not included prior to 1926. ²The ratio percentages are for pay roll chargeable to operating expenses only.

Rolling Stock.—Statistics of the rolling stock of the steam railways of Canada are given for the last seven years in Table 11. The figures may be supplemented by the statement that between 1920 and 1930 the average capacity of box cars increased from 34.779 tons to 39.007 tons, of flat cars from 33.459 to 37.777 tons, and of all freight cars from 35.141 tons to 39.273 tons. The average tractive power of the locomotive in use in 1920 was 31,112 lb. and in 1930, 36,883 lb.

11.—Rolling Stock of Steam Railways, calendar years 1924-30.

Rolling Stock.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
Locomotives.	No.	No.	No.	No.	No.	No.	No.
Passenger.....	1,594	1,529	1,478	1,488	1,469	1,466	1,438
Freight.....	3,454	3,425	3,416	3,384	3,376	3,233	3,192
Switching.....	780	769	756	756	789	796	784
Electric.....	29	29	29	32	35	36	37
Totals.....	5,857	5,752	5,679	5,660	5,669	5,531	5,451
Passenger Cars.							
First class.....	1,981	1,960	1,968	1,968	1,978	1,999	1,980
Second class.....	419	426	409	406	400	386	372
Combination.....	426	430	398	545	546	512	492
Immigrant.....	703	704	668	668	738	730	703
Dining.....	196	198	198	207	204	218	218
Parlour.....	243	249	255	262	288	313	331
Sleeping.....	819	822	893	956	1,111 ¹	1,172 ¹	1,224 ¹
Baggage, express and postal.....	1,855	1,843	1,850	1,687	1,667	1,653	1,699
Motor cars.....	42	57	60	65	69	68	73
Other.....	165	150	149	158	183	199	254
Totals.....	6,849	6,839	6,848	6,922	7,184	7,250	7,346
Freight Cars.							
Box.....	155,656	154,527	150,499	151,232	148,717	151,565	151,500
Flat.....	22,748	22,308	21,631	21,018	20,335	19,601	17,728
Stock.....	12,335	12,025	11,746	11,656	11,312	10,408	9,479
Coal.....	23,486	23,445	23,663	23,551	23,278	22,676	22,251
Tank.....	453	466	456	462	466	495	516
Refrigerator.....	6,329	6,286	6,616	6,802	6,950	7,579	8,151
Other.....	5,156	5,170	6,644	6,062	5,970	5,432	5,402
Totals.....	226,163	224,227	221,255	220,783	217,028	217,756	215,027

¹ Includes pullman cars.

Commodities Hauled.—In Table 12, the duplications from two or more railways handling the same freight have been eliminated. The peak year was 1928 when agricultural products were particularly heavy. The 1930 statistics show a decrease of 18,993,011 tons, or 16.5 p.c. Decreases in 1930 were general, only 9 commodities showing increases over 1929.

12.—Commodities Hauled as Freight on Steam Railways during the calendar years 1926-30.

NOTE. In this table duplications are eliminated, i.e., the same freight handled by two or more railways is counted only once. In this respect these figures differ from those in the corresponding table in the 1926 and previous Year Books, and also from those of Table 6 in this chapter.

Group and Product.	1926.	1927.	1928.	1929.	1930.
	tons.	tons.	tons.	tons.	tons.
Agricultural Products—					
Wheat.....	11,866,705	12,295,949	17,997,862	10,816,763	9,889,323
Corn.....	683,330	751,924	858,760	846,488	663,070
Oats.....	1,533,970	1,170,675	1,548,811	1,347,478	993,749
Barley.....	1,089,949	994,794	1,463,535	1,048,602	721,897
Rye.....	239,520	531,681	453,093	288,606	239,879
Flax.....	170,445	134,303	133,133	77,928	109,444
Other grain.....	112,747	102,601	92,598	115,865	95,842
Flour.....	2,355,056	2,359,657	2,374,012	2,220,102	1,822,770
Other mill.....	1,836,571	1,884,778	1,919,015	2,004,804	1,725,598
Hay and straw.....	953,387	689,722	563,301	535,239	579,286
Cotton.....	158,267	149,221	142,236	169,831	133,167
Apples (fresh).....	296,829	244,000	282,432	285,088	349,816
Other fruit (fresh).....	535,541	531,811	540,217	527,642	470,303
Potatoes.....	674,991	717,737	699,658	751,215	753,080
Other fresh vegetables.....	276,100	298,401	348,290	345,656	323,726
Other agricultural.....	765,508	733,165	759,742	758,836	792,984
Totals, Agricultural Products..	23,548,916	23,590,419	30,176,695	22,140,143	19,663,934

12.—Commodities Hauled as Freight on Steam Railways during the calendar years 1926-30—concluded.

Group and Products.	1926.	1927.	1928.	1929.	1930.
	tons.	tons.	tons.	tons.	tons.
Animal Products—					
Horses.....	89,224	92,914	102,628	124,172	91,729
Cattle and calves.....	694,373	666,250	622,104	658,791	466,936
Sheep.....	64,850	70,330	64,334	76,320	72,698
Hogs.....	334,169	348,388	310,827	296,473	233,993
Dressed meats (fresh).....	488,925	477,790	453,061	460,807	499,408
Dressed meats (cured or salted).....	324,999	272,790	278,614	267,629	176,205
Other packing-house products.....	249,982	248,602	284,653	284,392	210,210
Poultry.....	93,257	93,780	101,701	109,121	89,522
Eggs.....	162,135	168,598	151,299	146,968	155,442
Butter and cheese.....	300,112	277,691	262,759	249,206	241,064
Wool.....	56,773	58,533	63,166	59,094	52,518
Hides and leather.....	171,191	185,265	168,635	154,433	134,014
Other animal.....	101,955	104,625	107,890	111,292	96,377
Totals, Animal Products.....	3,131,945	3,065,556	2,971,671	2,998,698	2,520,116
Mineral Products—					
Anthracite coal.....	5,572,730	4,552,095	5,212,748	5,169,348	4,574,824
Bituminous coal.....	14,525,052	14,327,884	13,266,158	14,370,779	12,153,738
Lignite coal.....	2,746,285	2,958,916	3,214,005	3,145,782	2,833,973
Coke.....	1,412,647	1,230,318	1,549,428	1,719,081	1,447,005
Iron ore.....	587,337	512,578	608,692	688,384	421,546
Other ores and concentrates.....	3,249,471	3,278,901	3,752,965	4,702,860	3,659,231
Base bullion and matte.....	97,750	85,536	125,370	162,781	189,437
Clay, gravel, sand, stone (crushed).....	6,454,541	7,193,841	7,836,974	9,072,573	7,692,562
Slate, dimension or block stone.....	358,945	346,519	390,665	401,540	350,159
Crude petroleum.....	597,774	641,644	806,202	939,509	878,738
Asphaltum.....	283,511	386,928	371,283	480,541	281,450
Salt.....	365,812	356,025	370,480	350,544	264,337
Other mineral.....	494,185	541,542	983,167	1,069,232	947,511
Totals, Mineral Products.....	36,746,040	36,412,727	38,488,137	42,272,954	35,694,511
Forest Products—					
Logs, posts, poles, cordwood.....	3,506,801	3,696,800	4,042,410	4,162,238	3,254,653
Ties.....	170,038	179,351	204,546	199,227	118,326
Pulpwood.....	4,111,139	4,821,837	5,090,938	3,951,674	3,941,747
Lumber, timber, box shooks, heading..	6,864,011	6,606,332	6,639,247	6,404,264	4,507,359
Other forest.....	613,844	637,898	635,915	586,421	557,232
Totals, Forest Products.....	15,265,833	15,942,218	16,613,056	15,303,824	12,379,317
Manufactures and Miscellaneous—					
Refined petroleum and its products....	1,976,456	2,183,613	2,637,478	3,088,483	2,811,336
Sugar.....	639,394	560,558	535,744	535,477	411,917
Iron—pig and bloom.....	401,859	371,436	446,625	492,659	317,734
Rails and fastenings.....	116,129	158,969	260,334	253,890	178,781
Bar and sheet iron—structural iron and iron pipe.....	1,560,885	1,487,998	1,938,795	2,416,028	1,549,071
Castings, machinery and boilers.....	663,753	661,030	668,974	713,526	531,145
Cement.....	1,160,063	1,333,256	1,493,173	1,711,985	1,350,308
Brick and artificial stone.....	935,649	956,660	1,008,582	1,051,484	649,565
Lime and plaster.....	412,529	441,908	475,577	489,503	367,357
Sewer pipe and drain tile.....	103,556	95,216	124,888	125,915	88,016
Agricultural implements and vehicles other than autos.....	423,709	490,147	552,456	485,721	318,019
Automobiles and auto-trucks.....	1,800,791	1,746,285	2,416,009	2,599,309	1,666,866
Household goods.....	81,012	75,684	75,037	62,921	51,912
Furniture.....	95,998	110,717	114,560	128,661	86,904
Liquor and beverages.....	268,700	294,337	355,973	343,017	277,901
Fertilizers, all kinds.....	332,614	445,355	577,125	568,069	607,408
Paper, printed matter, books.....	2,124,925	2,315,206	2,640,459	2,986,674	2,586,915
Wood-pulp.....	1,693,673	1,477,852	1,430,533	1,338,847	1,018,626
Fish (fresh, cured, etc.).....	117,694	114,993	113,075	110,393	96,448
Canned meats.....	6,221	11,634	8,889	9,027	8,403
Canned goods (all canned food products other than meat).....	390,162	385,202	426,906	452,118	383,499
Other manufactures and miscellaneous.	6,800,087	6,749,899	7,453,684	8,058,484	6,868,181
Merchandise.....	4,423,313	4,532,480	4,648,534	4,449,218	3,709,827
Totals, Mfrs. and Miscellaneous..	26,529,172	27,000,435	30,403,410	32,471,409	25,936,139
Grand Totals.....	105,221,906	106,011,355	118,652,969	115,187,028	96,194,017

Government Aid to Private Railways.—In order that the private railways of Canada might be constructed in advance of settlement, as colonization roads or through thinly settled districts where little traffic was available, it was necessary for Dominion, Provincial and even municipal Governments to extend some form of assistance. In our earlier history, when our Governments had plenty of Crown land and little cash, the subsidies granted to railways frequently took the form of land grants, which had the advantage of giving the railway a direct interest in opening up the country, though they sometimes led to the railways holding large tracts of land idle for speculative purposes when intermixed Crown lands had been homesteaded, thus retarding the settlement of agricultural land. Table 13 shows the areas of the land granted as subsidies to steam railway companies by the Dominion and Provincial Governments, with the names of the companies in the case of the Dominion Government. The total area so granted and for right of way purposes up to Dec. 31, 1930, amounted to 47,290,566 acres.

As the country grew wealthier, the objections to the land grant method became more apparent, and aid was more frequently given in the form of a cash subsidy per mile of line, a loan, or a subscription to the shares of the railway. From 1851 up to Dec. 31, 1930, as shown analytically in Table 14, the total value of such aid granted to steam railways in Canada, exclusive of the capital of Government railways, amounted to \$222,892,253. Of this sum, \$176,693,510 represented aid granted by the Dominion Government, \$33,210,615 that granted by the Provincial Governments, and \$12,988,128 that granted by municipalities. Table 15 records the details of the most recent type of assistance given to private railways, *viz.*, by the guaranteeing of their bonds or of the interest thereupon. These guarantees enabled the railways receiving them to borrow money at rates of interest considerably lower than would otherwise have had to be paid. The total amount outstanding on Dec. 31, 1930, was \$731,486,343.

13.—Areas of Land Subsidies Granted to Steam Railways by the Dominion and Provincial Governments up to Dec. 31, 1930.

By the Dominion Government.		Acres.
Alberta Railway and Coal Co.....		1,101,712
Canadian Pacific Railway Co. (main line).....		18,206,989
Calgary and Edmonton Railway Co.....		1,820,071
Great North West Central Railway Co.....		320,000
Manitoba Northwestern Railway Co.....		1,501,370
Manitoba Southwestern Col. Railway Co.....		1,306,800
Saskatchewan and Western Railway Co.....		1,396,860
C.P.R.—Souris Branch.....		98,860
C.P.R.—Pipestone Extension, Souris Branch.....		1,408,704
Canadian Northern Railway Co.....		200,320
Manitoba and Southeastern Railway Co.....		3,422,528
Qu'Appelle, Long Lake and Saskatchewan Railroad and Steamboat Co.....		680,320
		1,624,154
Total Grants by Dominion Government.....		31,781,832
By Provincial Governments.		
Nova Scotia.....		160,000
New Brunswick.....		1,788,392
Quebec ¹		2,085,710
Ontario.....		3,241,207
British Columbia ²		8,233,410
Total Grants by Provincial Governments.....		15,508,719
Total Grants by Dominion and Provincial Governments.....		47,290,566

¹Not including convertible land grants made by the Government of this province. ²Includes 4,065,076 acres repurchased from B.C. Southern, and Columbia and Western Railways.

14.—Analysis of the Total Financial Aid Given to Steam Railways up to Dec. 31, 1930.

By the Dominion Government.		By Provincial Governments.	
	\$		\$
Cash subsidies.....	118,600,799	Cash subsidies.....	33,210,615
Loans.....	15,142,633	Total Aid by Provinces.....	33,210,615
Paid to Quebec Government.....	5,160,053	By Municipalities.	
Cost of lines handed over to C.P.R.....	37,790,025	Cash subsidies.....	12,988,128
Total Aid by Dominion.....	176,693,510	Total Aid by Municipalities...	12,988,128
		Grand Total.....	222,892,253

15.—Railway Bonds Guaranteed by Dominion and Provincial Governments, as at Dec. 31, 1930.

Government.	Outstanding Dec. 31, 1930.
	\$
New Brunswick.....	917,000
Ontario.....	7,859,998
Manitoba.....	3,000,000
Saskatchewan.....	17,904,062
Alberta.....	18,394,428
British Columbia.....	45,186,001
Total Guaranteed by Provincial Governments.....	93,261,489
Dominion Government.....	638,224,854 ¹
Grand Total.....	731,486,343

¹Does not include \$216,207,142 perpetual debenture stock and guaranteed stock of the Grand Trunk Railway, on which interest and dividends are guaranteed by the Dominion Government, nor guaranteed bonds held by the Government.

Railway Accidents.—The number of passengers, employees and others killed and injured in steam railway accidents is given in summary form from 1915 to 1930 in Table 16, and in detailed analysis for 1928 to 1930 in Table 17. Between 1915 and 1930 the number of persons killed in *train accidents* only, increased by 59, or 16.1 p.c., and the injured by 1,114, or 70.6 p.c., the increases at highway crossings, due largely to careless driving by motorists, being 47 killed and 302 injured. The number of persons injured in other accidents (trackmen, shopmen, etc.), increased from 1,583 in 1915 to 8,371 in 1930; the extent of the injuries, of course, cannot be compiled or compared, but it is probable that legislation in connection with workmen's compensation results in injuries to employees being much more completely reported now than formerly.

16.—Number of Passengers, Employees and Others Killed and Injured on Steam Railways, years ended June 30, 1915-19, and calendar years 1919-30.

NOTE.—For the years 1888 to 1914, see Canada Year Book, 1922-23, page 635.

Year.	Passengers.		Employees.		Others.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1915.....	17	336	115	2,573	247	362	379	3,271
1916.....	20	309	174	4,332	274	337	468	4,978
1917.....	24	438	209	4,596	219	401	452	5,435
1918.....	32	344	178	5,352	200	393	410	6,089
1919.....	36	307	174	5,432	176	412	386	6,151
1919 (Dec. 31).....	34	392	197	6,349	209	476	440	7,217
1920.....	29	481	167	7,719	197	480	393	8,680
1921.....	5	259	156	6,583	193	394	354	7,236
1922.....	11	369	122	8,361	208	517	341	9,247
1923.....	15	437	167	9,382	165	539	347	10,358
1924.....	19	432	127	8,862	216	514	362	9,808
1925.....	5	401	105	8,256	199	642	309	9,299
1926.....	20	446	127	10,622	312	638	459	11,706
1927.....	14	569	131	11,057	256	695	401	12,321
1928.....	15	389	140	12,626	352	790	507	13,805
1929.....	20	551	118	12,483	293	809	431	13,843
1930.....	15	548	103	9,678	345	837	463	11,063

17.—Number of Persons Killed and Injured on Steam Railways in the calendar years 1923-30.

(A) IN ACCIDENTS RESULTING FROM MOVEMENT OF TRAINS, LOCOMOTIVES OR CARS.

Item.	1928.		1929.		1930.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Description of Persons—						
Passengers.....	15	326	20	406	15	488
Employees.....	114	2,214	104	2,028	81	1,477
Trespassers.....	156	181	148	177	205	215
Non-trespassers.....	191	512	139	497	122	472
Postal clerks, expressmen, etc.....	3	24	1	36	2	46
Totals.....	479	3,257	412	3,144	425	2,692
Description of Accident (Employees and Passengers only)—						
Coupling and uncoupling.....	5	151	2	165	6	102
Collisions.....	10	171	28	188	5	115
Derailments.....	13	195	17	268	12	223
Parting of trains.....	1	45	—	27	1	31
Locomotives or cars breaking down.....	1	8	1	19	2	21
Falling from trains or cars.....	25	274	23	288	20	187
Jumping on or off trains.....	17	409	11	360	7	339
Struck by trains, etc.....	44	121	37	157	40	133
Overhead obstruction.....	—	27	—	19	—	17
Other causes.....	13	1,139	5	943	3	792
Totals.....	129	2,540	124	2,434	96	19,659

(B) IN ACCIDENTS OTHER THEN THOSE RESULTING FROM MOVEMENT OF TRAINS, LOCOMOTIVES OR CARS

Description of Persons.	1928.		1929.		1930.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Stationmen.....	—	872	1	875	—	670
Shopmen.....	6	3,472	5	3,529	2	2,832
Trainmen and trackmen.....	8	3,722	7	3,947	14	3,043
Other employees.....	12	2,346	1	2,104	6	1,656
Passengers.....	—	63	—	145	—	60
Others.....	2	73	5	99	16	110
Totals.....	28	10,548	19	10,699	38	8,371

Section 3.—Origin and Growth of Government-Owned Railways.

Canadian Government Railways.—The Intercolonial Railway, built as a condition of Confederation and completed in 1876, and the Prince Edward Island Railway, opened in April, 1875, have since their construction been owned and operated by the Dominion Government. In 1903 the Dominion Government undertook the construction of the National Transcontinental Railway from Moncton, N.B., to Winnipeg, to be leased to the Grand Trunk Pacific Railway Company for a period of 50 years. However, as a result of the conditions arising from the Great War, the company was unable to take over the operation of the road when completed in 1915. The Government itself undertook its operation and was also obliged to lease the Lake Superior branch of the Grand Trunk Pacific Railway, which was isolated from the main line. A number of eastern branch lines have been acquired in recent years, including: the New Brunswick and Prince Edward Island Railway which forms the mainland connection of the Prince Edward Island car ferry, the International Railway, the Moncton and Buctouche Railway, the Salisbury and Albert Railway, the St. Martin's Railway, the Elpin and Havelock Railway, the York and Carleton Railway, the Quebec and Saguenay Rail-

way, the Caraquet and Gulf Shore Railway, the Lotbinière and Mégantic Railway and the Cape Breton Railway. The Saint John and Quebec, and Inverness Railways which had been operated under lease were purchased in 1929, together with the Kent Northern, the Atlantic, Quebec and Western, the Quebec Oriental and the Quebec, Montreal and Southern. The Hudson Bay Railway, which had 332.5 miles of steel rail at the end of 1920, was declared to be comprised in the Canadian Government Railways, and until 1926 was operated to a limited extent by the board of directors of the Canadian National Railways. In that year, as a result of the decision to complete the road, it was returned to the Department of Railways and Canals until completed. The eastern terminus was transferred from Nelson to Churchill, and the line rehabilitated and extended through to Churchill. Construction of wharves and a grain elevator was completed in time to allow two cargoes of wheat to be shipped in September, 1931, to Europe. To Mar. 31, 1931, the total cost of this railway was \$31,084,324 and of terminal work at Churchill \$7,289,953, exclusive of the expenditures of \$6,274,217 on the terminal at Nelson, some of which was salvaged.¹

Tables 18 and 19, from the Annual Report of the Department of Railways and Canals, show the capital expenditure of the Dominion Government on the Canadian Government Railways and their operating finances to Mar. 31, 1931. In Table 18 the cost of the Quebec Bridge (\$21,706,664) also \$18,000 of miscellaneous expenditure, are not included in the total of capital expenditure, while in Table 19 they are included.

¹These figures of total cost include deficits during operations and expenditures which formed part of cash loans to the Canadian National Railways and amounts chargeable to appropriations under collection of revenue in the case of the terminals, in addition to the expenditures by the Government on capital account as shown in Table 19.

18.—Cost of Construction, Operating Expenses and Revenue of Canadian Government Railways before Confederation and for the fiscal years 1868-1900 and 1901-31.

NOTE.—From the Annual Report of the Department of Railways and Canals. For the years 1868 to 1915, see Canada Year Book, 1916-17, p. 437.

Fiscal Year.	Capital Expenditure.	Operating Expenses.	Revenue.	Operating Surplus (+) or Deficit (—).
	\$	\$	\$	\$
Before Confederation.....	13,881,461	—	—	—
1868-1900.....	114,091,108	81,391,472	73,226,382	— 8,165,000
1901-1915.....	217,779,966	136,904,921	133,201,248	— 3,703,673
1916.....	21,153,255	19,407,380	18,427,909	— 979,471
1917.....	12,013,650	25,795,907	23,539,759	— 2,256,148
1918.....	34,699,417	33,400,460	27,240,957	— 6,159,503
1919.....	40,193,181	43,889,626	38,013,726	— 5,875,900
1920.....	11,593,148	48,194,710	41,402,061	— 6,792,649
1921.....	5,096,535	43,770,971	36,814,350	— 6,956,621
1922.....	4,553,638	6,326,800	² —	— 6,326,800
1923.....	Cr. 1,052,293	5,695,669	² —	— 5,695,669
1924.....	315,944	—	—	—
1925.....	Cr. 37,499	—	—	—
1926.....	Cr. 40,580	20,587 ³	—	— 20,587
1927.....	2,828,344	13,832 ³	—	— 13,832
1928.....	3,626,946	—	—	—
1929.....	Cr. 7,137,151	—	—	—
1930.....	6,404,790	—	—	—
1931.....	6,371,031	—	—	—
Total.....	486,324,891¹	—	—	—

¹Less \$40,000 received from Saint John city for the Carleton Branch Railway, plus cost of Quebec Bridge to Mar. 31, 1930, viz., \$21,706,664 and miscellaneous expenditures in 1914 of \$18,000=\$508,039,555.

²Revenue applied against operating expenses.

³Expenditure on Port Nelson terminals.

19.—Capital Expenditure on Government Railways to Mar. 31, 1931.

(From the Annual Report of the Department of Railways and Canals.)

Railway.	Expenditure, Fiscal Year 1931.	Total Expenditure.
	\$	\$
CANADIAN GOVERNMENT RAILWAYS—		
<i>A. Roads Entrusted to Canadian National Railways.</i>		
Intercolonial Railway System—		
Canada Eastern Railway.....	—	819,000
Cape Breton Railway.....	—	3,860,676
Drummond County Railway.....	—	1,464,000
Eastern Extension Railway.....	—	1,324,043
Montreal and European Railway.....	—	333,943
Oxford and New Glasgow Railway.....	—	1,949,063
Intercolonial Railway.....	Cr. 277,535	122,997,578
Total, Intercolonial Railway System.....	Cr. 277,535	132,748,306
New Brunswick and Prince Edward Island Railway.....	—	925,267
Prince Edward Island Railway.....	2,500,000	16,033,780
International Railway of New Brunswick.....	—	2,963,022
National Transcontinental Railway.....	8,877	169,318,185
Moncton and Buctouche Railway.....	—	293,067
Salisbury and Albert Railway.....	—	437,648
St. Martin's Railway.....	—	302,046
Elgin and Haverlock Railway.....	—	135,029
York and Carleton Railway.....	—	59,746
Quebec and Saguenay Railway.....	—	7,772,911
Caraguet and Gulf Shore Railway.....	—	711,767
Lotbinière and Mégantic Railway.....	—	360,008
Cape Breton Railway Extension.....	—	107,647
Canadian Government Railways (rolling stock).....	—	35,906,043
Canadian Government Railways (miscellaneous).....	—	345
Quebec Bridge.....	—	21,706,664
Miscellaneous suspense.....	—	148
Totals, Roads Entrusted to C.N.R.....	2,231,342	389,781,632
<i>B. Roads not entrusted to Canadian National Railways—</i>		
Hudson Bay Railway.....	1,557,299	30,274,194
Hudson Bay Railway—Nelson Terminal.....	2,582,390	6,240,201
Hudson Bay Railway—Churchill Terminal.....	—	7,289,551
Less: Accounts Receivable, Outstanding.....	—	Cr. 28,838
Totals, Roads not Entrusted to C.N.R.....	4,139,689	43,775,107
Total's, Canadian Government Railways.....	6,371,031	433,556,739
OTHER RAILWAYS AND MISCELLANEOUS—		
Annapolis and Digby Railway.....	—	660,683
Central Canada Railway.....	—	175,000
North Railway.....	—	250,000
Governor General's cars.....	—	71,533
Miscellaneous expenditure.....	—	18,000
Yukon Territory Works, Stikine-Teslin Railway (part of item under Schedule "H" of Public Accounts).....	—	283,323
Canadian Pacific Railway.....	—	62,791,435
Grand Trunk Railway—Debenture Account.....	—	15,142,631
Grand Trunk Railway—Interest Account.....	—	10,457,456
Grand Trunk Railway—Special Account.....	—	7,302
Grand Trunk Railway—Preference Stock.....	—	121,739
Canadian Northern Railway—Purchase of Capital Stock.....	—	10,000,000
Loans to Railways per Schedule "L" of Public Accounts and Page 41 of this report—		
Canadian Northern Railway.....	—	255,408,804
Grand Trunk Railway.....	—	118,582,182
Grand Trunk Pacific Railway.....	—	116,006,599
Canadian National Railways.....	—	57,482,652
Loans to Railways—Purchase of equipment.....	—	56,926,000
Total, Other Railways and Miscellaneous.....	—	704,385,351
Grand Total, Capital Expenditure.....	6,371,031	1,137,942,093

The Consolidation and Organization of the Canadian National System.¹

—In pursuance of an Act of 1917 (7-8 Geo. V, c. 24), the Government acquired the capital stock of the Canadian Northern Railways with a mileage of 9,566.5. The insolvency of the Grand Trunk Pacific led to the appointment of the Minister of Railways as receiver on Mar. 9, 1919, and in October, 1920, the road was transferred to the Canadian National Railways. The Grand Trunk Railway was acquired under c. 13 of the second session of 1919, which provided for arbitration as to the considerations to be given to its shareholders. This arbitration finally disposed of, steps were taken to consolidate the various railways under government operation and control. In October, 1922, the Grand Trunk Board and the Canadian Northern Board gave place to a single Canadian National Board, to which the former Canadian Government Railways were turned over for management and operation. The unification of the Grand Trunk and Canadian National Railways was provided for by Order in Council of Jan. 30, 1923, which also brought into effect the Act to incorporate the Canadian National Railway Company and respecting Canadian National Railways (c. 13, 1919). This was followed, on Feb. 5, 1923, by an Order in Council establishing the head office of the Canadian National Railways at Montreal, Que.

Operation of the Canadian National Railways.—The Canadian National system's steam mileage at Dec. 31, 1930, including lines in the United States but exclusive of the Northern Alberta (which is controlled jointly by the Canadian National and the Canadian Pacific Railways) was 20,425.57, which with the Eastern Lines' mileage of 3,342.39 made a total of 23,767.96. Including the Thousand Islands Railway, 4.51, controlled by a constituent company but separately operated, the total steam mileage was 23,772.47. Including 186.4 miles of electric lines, the grand total was 23,958.87.

The Maritime Freight Rates Act (17 Geo. V, c. 44), effective July 1, 1927, ordered that the accounts of the Canadian National lines east of Lévis and Diamond Junction, Quebec, be kept separate from those of the remainder of the Canadian National system. These lines were designated the "Eastern Lines" of the Canadian National Railway, and the territory, which included Prince Edward Island, Nova Scotia, New Brunswick and a part of Quebec, the "select territory". The Act also ordered that local and westbound freight rates on the Eastern Lines and freight rates on all eastbound traffic originating on these lines be reduced by 20 p.c. The reductions applied only to rates on the Eastern Lines and not to railways beyond the "select territory". Other railways operating in the "select territory" were allowed to make similar reductions in their freight rates in that territory and to bill on the Board of Railway Commissioners of Canada for the difference in freight receipts due to such reductions. The railways making such reductions included these bills with their revenues and consequently their revenues were not reduced

¹For further details on the acquisition of the Canadian Northern, Grand Trunk Pacific and Grand Trunk Railways by the Dominion Government, see pp. 602-603 of the 1926 Year Book.

by the change in the rates. The Act provides that any deficit from the operation of these lines shall be met by a separate appropriation by the Dominion Government. For the six months, July-December, 1927, and the calendar years 1928, 1929 and 1930, the Eastern Lines reported losses in revenues due to these reductions in rates of \$931,810, \$2,151,528, \$2,451,818 and \$2,362,205, respectively, and the deficit was therefore increased by those amounts. The total paid to privately owned railways under the Act was \$421,655 for the six months of 1927, \$828,893 for 1928, \$811,149 for 1929 and \$861,195 for 1930. The four operating regions of the Canadian National Railways system were somewhat altered in consequence of the Maritime Freight Rates Act and are now divided as follows: the Eastern Lines, including far the greater part of the former Atlantic region and the lines west to Lévis and Diamond Junction, a total of 3,342·39 miles; the Central Region, from Lévis and Diamond Junction west to Port Arthur and Armstrong, including the line in the United States to Portland, Maine, a total of 7,645·48 miles; the Western Region, including all lines west of Port Arthur and Armstrong, with the Duluth, Winnipeg and Pacific, a total of 11,299·34 miles; the Grand Trunk Western, the lines in the States of Michigan, Indiana and Illinois, 1,019·13 miles; and the Central Vermont lines, 461·62 miles.

The Quebec Bridge across the St. Lawrence above Quebec city, with a main span of 1,800 ft., carrying a single track railway and accommodation for motor and pedestrian traffic, forms a connecting link in the Canadian National Railways system and is operated as a part of it.

Table 20 shows some of the more important train traffic statistics of Canadian National Railways operation for the years 1929 and 1930 (excluding the Eastern Lines and the Central Vermont Railway for January. These lines were included in the similar table on pp. 663-4 of the 1927-28 Year Book).

In order to enable a comparison to be made between the 1929 and 1930 figures, the 1929 figures have been adjusted by inclusion of the data for the Central Vermont lines for the eleven months from Feb. 1st.

20.—Canadian National Railways (Canadian and U.S. Lines) Train Traffic Statistics, for the calendar years 1929 and 1930.¹

Item.	1929. ¹	1930. ¹
Train Mileage—		
Passenger trains.....	22,504,904	21,892,502
Freight trains.....	29,645,223	24,843,220
Mixed trains.....	2,713,746	2,555,803
Special trains.....	34,400	20,818
Unit cars.....	1,040,774	1,226,938
Totals, Train Miles ³	55,939,047	50,539,281
Car mileage—		
Passenger—		
Coaches, parlour, sleeping and dining cars.....	113,441,660	109,117,011
Baggage, mail, express, etc.....	56,907,628	53,091,597
Totals, Passenger Train Car Miles ³	170,349,288	162,208,608
Freight—		
Loaded freight car miles.....	846,135,472	700,156,440
Empty freight car miles.....	384,670,175	341,003,533
Caboose miles.....	31,824,339	26,815,748
Totals, Freight Train Car Miles ³	1,262,629,986	1,067,975,721

See end of table, next page, for footnotes.

20.—Canadian National Railways (Canadian and U.S. Lines) Train Traffic Statistics, for the calendar years 1929 and 1930²—concluded.

Item.	1929. ¹	1930. ¹
Passenger Traffic—		
Passengers carried (earning revenue).....	16,044,450	14,013,390
Passengers carried (earning revenue) one mile.....	1,208,407,851	1,009,434,458
Passenger train miles per mile of road.....	1,184	1,140
Average passenger journey—miles.....	75.32	72.03
Average amount received per passenger.....	2.065	1.965
Average amount received per passenger mile.....	0.0274	0.0273
Average number of passengers per train mile.....	50.24	42.85
Average number of passengers per car mile.....	11.42	9.98
Revenue from passengers per passenger car mile.....	0.3133	0.2723
Total passenger train earnings per train mile.....	2.22	1.92
Total passenger revenue per mile of road.....	2,685.57	2,233.59
Freight Traffic—		
Tons of revenue freight carried.....	63,840,670	50,411,048
Tons of revenue freight carried one mile.....	17,834,489,701	15,156,633,624
Tons of non-revenue freight carried one mile.....	2,453,049,725	1,739,252,975
Total tons (all classes) freight carried one mile.....	20,287,539,426	16,895,886,599
Tons of revenue freight carried one mile per mile of road.....	891,335	743,869
Total tons (all classes) freight carried one mile per mile of road.....	1,014,677	829,146
Average number of tons revenue freight per train mile.....	556.59	559.09
Average number of tons (all classes) freight per train mile.....	633.61	623.60
Average number of tons (all classes) freight per loaded car mile.....	23.86	24.02
Average haul revenue freight—miles.....	279.36	300.66
Freight revenue per loaded car mile.....	0.23622	0.23410
Freight revenue per train mile.....	6.27	6.08
Freight revenue per mile of road.....	10,046.33	8,081.33
Freight revenue per ton.....	3.12972	3.25046
Freight revenue per ton mile.....	0.01120	0.01081

¹Excludes Central Vermont Railway up to Feb. 1, Eastern Lines and electric lines.

²For detailed statistics of the operation and finances of the Canadian National Railways during 1930 see the annual report of the Department of Railways and Canals for the fiscal year ended Mar. 31, 1931, and Steam Railway Statistics, 1930, published by the Dominion Bureau of Statistics, also annual report of the Canadian National Railways. ³Work service excluded.

Operating Finances of the Canadian National Railways.—In Table 21 "Canadian Lines" include those of the Canadian Northern system, the Grand Trunk Railway of Canada, the Grand Trunk Pacific and the Canadian Government Railways. The "United States Lines" include those lines known as the New England line, the Grand Trunk Western, the Duluth, Winnipeg and Pacific and the Central Vermont from Feb. 1, 1930. The Hudson Bay Railway was returned to the Government while under construction, and appropriations, etc., for this were not included with the 1926 data. The Maritime Freight Rates Act necessitated the segregation of the Eastern Lines which have been kept separate since July 1, 1927.

Gross revenues, operating expenses and net revenues shown in this table include only those from steam railway operations, with the exception that commercial telegraph operations are included in the figures for 1927, 1928, 1929 and 1930, but the deficits are for the entire system, including the operating results of the Niagara, St. Catharines and Toronto Railway (electric) and other railways operated separately, hotels, commercial telegraphs, coastal steamships and all other outside operations.

Up to 1928 there was a marked improvement over the results of the first year after consolidation (1923), when the deficit was \$51,697,675, but the light traffic in 1930 so reduced gross revenues that, with increased interest charges, the deficit increased from \$46,099,250 in 1929 to \$68,279,770.

21.—Gross Revenues, Operating Expenses, Net Revenues, Interest on Funded Debt and Annual Deficit of the Canadian National Railways, for the calendar years 1926-30.

Item.	1926.	1927. ¹	1928.	1929.	1930.
Gross Railway Operating Revenues—	\$	\$	\$	\$	\$
Canadian Lines.....	225,547,852	207,573,007	232,459,577	217,604,469	184,848,028
United States Lines.....	40,639,974	41,143,367	44,172,344	42,274,504	36,922,417 ²
Totals, Cdn. and U.S. Lines.....	266,187,826	248,716,374	276,631,921	259,878,973	221,770,445
Eastern Lines.....	—	26,162,744 ²	27,959,347 ²	30,618,007 ²	28,598,553 ²
Totals, All Lines.....	266,187,826	274,879,118	304,591,268	290,496,980	250,368,998
Railway Operating Expenses—					
Canadian Lines.....	190,173,271	172,786,790	186,296,821	183,408,505	163,473,542
United States Lines.....	29,531,362	30,528,894	31,951,522	31,408,388	31,785,965 ²
Totals, Cdn. and U.S. Lines.....	219,704,633	203,315,684	218,248,343	214,816,893	195,259,507
Eastern Lines.....	—	29,989,583	31,483,352	33,815,382	33,028,516
Totals, All Lines.....	219,704,633	233,305,267	249,731,695	248,632,275	228,288,023
Net Operating Revenues—					
Canadian Lines.....	35,374,581	34,786,217	46,162,756	34,195,964	21,374,486
United States Lines.....	11,108,612	10,614,473	12,220,822	10,866,116	5,136,452 ²
Totals, Cdn. and U.S. Lines.....	46,483,193	45,400,690	58,383,578	45,062,080	26,510,938
Eastern Lines.....	—	—3,826,839	—3,524,005	—3,197,375	—4,429,969 ²
Totals, All Lines.....	46,483,193	41,573,851	54,859,573	41,864,705	22,080,970
Interest—					
Canadian National—On Funded Debt.....	71,287,687	72,262,418	73,537,537	77,323,052	82,988,88 ²
Eastern Lines—On Funded Debt.....	—	768,912	780,680	871,473	1,021,113 ²
Totals, All Lines.....	71,287,687	73,031,330	74,318,217	78,194,525	84,009,997
Deficit—					
Canadian National.....	29,701,445	31,576,194	24,730,410	40,933,994	61,287,201
Eastern Lines.....	—	5,129,718 ²	5,138,027 ²	5,165,256 ²	6,992,569 ²
Totals, All Lines.....	29,701,445	36,705,912	29,868,437	46,099,250	68,279,770

¹Adjusted to show data of Eastern Lines for twelve months, also to include revenues and expenses of commercial telegraph.

²Includes contributions from Dominion Government to cover loss from 20 p.c. reduction in certain rates ordered by the Maritime Freight Rates Act, July 1, 1927; \$931,810 for 6 months 1927, \$2,151,528 for 12 months 1928, \$2,451,818 including \$13,743 for Gaspé railways for 1929 and \$2,362,205 for 1930.

³Appropriations by the Dominion Government to meet deficits of Eastern Lines including loss due to reduction in freight rates amounted to: \$3,049,746 in cash, \$214,949 in accounts, total \$3,264,695 for 6 months 1927; \$6,351,884 in cash, \$937,671 in accounts, total \$7,289,555 for 1928; \$7,214,035 in cash, \$389,296 in accounts, total \$7,603,331 for 1929; and \$9,354,774 for 1930.

⁴Includes Central Vermont for eleven months.

The Debt and Interest Charges of the Canadian National Railways.—

The two tables which follow analyse the increase in the debt and interest charges of the system, including both Canadian and United States lines. The first table (22) shows to whom the liabilities which have accumulated up to 1930 are payable and the second (23) the purposes for which the funds representing the annual increases in liabilities were used. To define clearly what is included under debt due to the Dominion Government in Table 22, the appropriations for the Canadian Government Railways have been separated from the loans and advances to the remainder of the system. The Canadian Government Railways include the Inter-colonial, National Transcontinental, Prince Edward Island and several other smaller railways in the Eastern Provinces, together with the Quebec Bridge. The Hudson Bay Railway was included in the Canadian Government Railways until 1926, when it was transferred back to the Department of Railways and Canals for completion, and appropriations on its account were deducted. These Canadian Government Railways appropriations do not include the operating deficits of the Canadian Government Railways for 1919 and 1920 nor the deficits of the Eastern Lines since July 1, 1927, but include investments for construction, purchase and working capital of the Canadian Government Railways and the operating deficits of these railways since their consolidation with the system in 1921, except as already mentioned. As the book value of these properties is included on the asset side of the

balance sheet, the cost of these roads to the Dominion is included in the liabilities of the system as an offset. The construction or purchase of these roads was financed by the Dominion from the Consolidated Revenue Fund, and while for book-keeping purposes their cost is set up as a system liability, they are not a debt and carry no interest obligation.

In a rather different class are the loans and advances made by the Government to the Canadian National Railways or constituent companies on notes, bonds and receiver certificates with accrued simple interest ranging from 3 to 6 p.c. In computing the public debt of Canada the Finance Department considers these railway loans and advances as "non-active assets" similar to investments in canals, public works, etc., and as such does not subtract them from the gross debt in computing the net debt; similarly, no interest is charged by the Finance Department on the railway advances. The railways, however, debit their accounts with the accrued interest on these Government advances, although no such interest has been paid.

The debt due to the public includes debenture stock maturing and perpetual, and bonds and mortgages of the constituent railways, but does not include the capital stock of the Grand Trunk Railway held by the Government, nor the cost of acquiring the same. Likewise it does not include the capital stock of the Canadian Northern system. The stock of the Grand Trunk Pacific is all held by the Canadian National system and is therefore not included either.

Table 22 shows the total debt at the end of 1930 to have been \$2,498,571,939, made up of \$1,168,565,863 owing to the public and \$1,330,006,076 to the Government. In addition to the actual loans and advances by the Government amounting to \$604,406,239, this sum of \$1,330,006,076 includes, not only the unpaid interest, already referred to, of \$322,155,902, but \$403,443,935 spent on the construction and purchase of lines forming the original Canadian Government Railways. The aggregate net increase in the principal of the debt during the 12 years as shown in Table 22 was \$1,117,365,694, of which \$395,601,897 was an increase in debt due to the public and \$721,763,797 in debt due to the Government. The Central Vermont Railway was acquired by the Canadian National system and from February 1, 1930 formed part of that system.

In Table 23 is presented an analysis of the increase in capital liability in the years 1923 to 1930, according to the purpose for which the money was used. The accounts for the Eastern Lines, which under the Maritime Freight Rates Act were ordered segregated from those of the remainder of the system, are shown separately since July 1, 1927. In the first column is shown the interest accrued each year, including interest due to the public and to the Dominion Government. In the second column is shown the total increase in book long term debt as set up by the Railway. It is stated in these terms because it contains accrued interest on Government loans which is not included in the debt by the Minister of Finance. Columns 3 and 5 show the division of the total increase shown in column 2 together with profit and loss adjustments, such as from sales of property, etc. The totals for 1924-30 are shown for the purpose of comparison with Table 24. Of the total increase of \$706,046,187 in the eight years the system had been under one management, \$339,028,935 was due to operating deficits and \$360,954,950 was expended on additions and betterments, increased working capital, etc. To explain this last item Table 24 has been compiled. It shows a net increase in assets for the seven years, 1923-30, of \$320,831,688. Of course, some of this is offset by increased current liabilities, but the investments show an increase of \$326,974,427 as against the net increase of \$270,832,693 shown in column 5, Table 23.

22.—Debt and Interest Charges of Canadian National Railways (Including Appropriations for Canadian Government Railways), Calendar Years 1919-30.

PRINCIPAL AND UNPAID ACCRUED INTEREST.¹

Calendar Year.	Amount Outstanding Dec. 31.					Total Increase during Year.
	Due to Dominion Government.			Due to Public.	Total.	
	Appropriations for Can. Govt. Railways.	Loans and Advances with Accrued Interest.	Total.			
	\$	\$	\$	\$	\$	\$
1919	407,254,699	274,969,881	682,224,580	801,131,444	1,483,356,024	102,149,779
1920	411,704,909	396,744,482	808,449,391	820,550,681	1,629,000,072	145,644,048
1921	416,295,596	514,796,282	931,091,878	830,829,449	1,761,921,327	132,921,255
1922	415,118,319	601,627,683	1,016,746,002	804,503,144	1,821,249,146	59,327,819
1923	447,643,526 ²	666,539,750	1,114,183,276	823,099,056	1,937,282,332	116,033,186
1924	451,712,485	690,555,950	1,142,268,435	913,913,083	2,056,181,518	118,899,186
1925	453,935,303	734,547,038	1,188,482,341	931,329,303	2,119,811,644	63,630,126
1926	437,412,032 ³	788,251,724	1,225,663,756	925,480,244	2,151,144,000	31,332,356
1927	436,416,287 ⁴	821,680,355 ⁵	1,258,096,742	981,381,726	2,239,478,478	88,334,478
1928	417,279,954 ⁶	872,936,528 ⁷	1,290,216,482	977,889,033	2,268,105,515	28,627,037
1929	417,150,141	891,534,521 ⁸	1,308,684,662	1,122,559,493	2,431,244,155	163,138,640
1930	403,443,935 ⁹	926,562,141	1,330,006,076	1,168,565,863	2,498,571,939	67,327,784

INTEREST.

Calendar Year.	Accrued during Year.			Increase during Year.		
	Due to Dominion Govt.	Due to Public.	Total.	Due to Dominion Govt.	Due to Public.	Total.
	\$	\$	\$	\$	\$	\$
1919.....	9,596,581	28,599,687	38,196,268	3,517,851	669,715	4,187,566
1920.....	14,346,832	31,055,318	45,402,150	4,750,251	2,455,631	7,205,882
1921.....	20,966,782	34,476,014	55,442,796	6,619,950	3,420,696	10,040,646
1922.....	24,912,876	34,652,324	59,565,200	3,946,094	176,310	4,122,404
1923.....	30,157,944	35,041,380	65,199,324	5,245,068	389,056	5,634,124
1924.....	31,271,043	38,361,704	69,632,747	1,113,099	3,320,324	4,433,423
1925.....	31,450,382	40,438,235	71,888,617	179,339	2,076,531	2,255,870
1926.....	32,090,454	39,197,233	71,287,687	640,072	-1,241,002 ²	-600,930
1927.....	32,505,234	40,526,096	73,031,330 ³	414,780	1,328,863	1,743,643
1928.....	32,507,337	41,810,880	74,318,217 ⁴	2,103	1,284,784	1,286,887
1929.....	32,690,545	45,503,980	78,194,525 ⁵	183,208	3,693,100	3,876,308
1930.....	32,693,876	51,316,121	84,009,997 ⁶	3,331	5,812,141	5,815,472

¹Includes Government loans, funded debt and debenture stock of Canadian Northern system, Grand Trunk and Grand Trunk Pacific and cost of constructing Canadian Government Railways, but excludes capital stock, which on Dec. 31, 1930, amounted to \$270,221,124, of which \$265,628,339 was owned by the Dominion Government and \$4,592,785 was held by others. Does not include appropriations for deficits of Canadian Government Railways for 1919 and 1920 nor of the Eastern Lines since July 1, 1927.

²Includes operating deficits 1921-1922-1923 and working capital of Canadian Government Railways.

³Reduced on account of the Hudson Bay Railway being returned to Canadian Government while under construction, and by repayments to Dominion Government, account of Canadian Government Railways.

⁴Reduction due to revision of appropriations.

⁵Accrued interest included on Dec. 31, 1928, was \$258,024,307 and on Dec. 31, 1929, \$290,088,439, 1930, \$322,155,901.

⁶Reduction due to transfer of Canadian Government Railways property to Harbour Commissions of Halifax (\$12,830,122) and Saint John (\$647,383), and adjustments of Canadian National cash loans of \$5,947,732 and additions amounting to \$288,804.

⁷Reduction due to transfer to Canadian Government deficits of \$13,881,203 consisting of deficit of Canadian Government Railways for 1921 and 1922 of \$12,022,470 and miscellaneous Canadian Government Railways' adjustments with Public Accounts.

⁸Interest on 4 p.c. Grand Trunk Pacific debentures reduced by \$1,046,378, under agreement with bondholders.

⁹Includes interest on debt of Eastern Lines, viz., \$392,407 for 1927, \$780,680 for 1928, \$871,473 for 1929, and \$1,021,113 for 1930.

23.—Analysis of the Increase in the Long Term Debt of the Canadian National Railways, calendar years 1923-30.¹

For the years 1919-22 see Canada Year Book 1930, p. 642.

Calendar Year.	Interest on Funded Debt.	Total Increase in Book Long Term Debt.	Distribution of Increase in Book Long Term Debt.		
			Income Deficits.	Profit and Loss Adjustments.	Additions and Betterments; Discount on Debt; Increased Working Capital, etc.
	\$	\$	\$	\$	\$
1923.....	65,199,324	116,033,186	51,697,675	Dr. 2,936,648	61,398,863
1924.....	69,632,747	118,899,186	54,860,419	Cr. 385,872	64,424,639
1925.....	71,888,617	68,630,126	41,444,764	Dr. 206,505	21,978,857
1926.....	71,287,687	46,578,245	29,701,445	Cr. 6,214,688	23,091,488
1927.....	72,636,923	88,334,478	34,373,027	Dr. 628,150	53,333,301
1928.....	73,537,537	42,104,542	24,730,410	Dr. 3,601,070	13,773,062
1929.....	77,323,052	163,138,640	40,933,994	Dr. 116,056	122,088,590
1930.....	82,988,884	67,327,784	61,287,201	Dr. 5,174,433	836,150
Totals.....	584,494,771	706,046,187	339,028,935	Dr. 6,062,302	360,954,950
Less ledger value of Canadian Government Railways property transferred from Canadian National Railways system.....					
1926.....	—	15,245,889	—	—	15,245,889
1928.....	—	13,477,505	—	—	13,477,505
Net Increases.....	—	677,322,793	339,028,935	Dr. 6,062,302	332,231,556
Totals (1924-1930).....	519,295,447	590,013,001	287,331,260	Dr. 3,125,654	299,556,087
Net increases (1924-1930).....	—	561,289,607	287,331,260	Dr. 3,125,654	270,832,693
Eastern Lines—					
1927 (6 months).....	392,407 ²	2,525,723 ²	2,332,885 ³	Dr. 192,838	—
1928.....	780,680 ²	4,983,349 ²	5,138,027 ³	Cr. 154,678	—
1929.....	871,473 ²	5,560,268 ²	5,165,256 ³	Dr. 395,012	—
1930.....	1,021,113 ²	7,272,057 ²	6,992,569 ³	Dr. 279,488	—
Totals, Eastern Lines..	3,065,673	20,341,397	19,628,737	Dr. 712,660	—

¹In computing the public debt of Canada, the Finance Department considers railway appropriations and advances in the same way as investments in canals, public works, etc., i.e., as "non-active assets" and does not subtract them from the gross debt in computing the net debt; similarly, no interest is charged by the Finance Department. The railways, however, debit their accounts with the accrued interest on Government advances although none of this interest has been paid.

²Not assumed by Canadian National Railways system.

³Deficits of Eastern Lines are met by appropriations by Dominion Government. These deficits do not include loss in revenues due to the 20 p.c. reductions in freight rates, viz., \$931,810 for six months 1927, \$2,151,528 for 1928, \$2,451,818 for 1929, including \$13,743 for Gaspé railways, and \$2,362,205 for 1930, also paid by the Dominion Government.

Assets of Canadian National Railways.—No consolidated balance sheet was issued for 1922 and, consequently, it is not possible to show the changes during the 8 years the system has been under the unified management. Table 24, however, shows the asset side of the balance sheets for 1923 and 1930 and the increases and decreases during this seven-year period.

The gross increase in investment in road and equipment of \$329,034,062 is made up of \$270,832,693 for additions and betterments, discounts, etc., for 1924-30, shown in Table 23, plus \$55,653,542 of temporary loans and certain adjustments amounting to \$2,547,827. During this period the increase in miles of road owned was 2,537.05 (Hudson Bay Railway excluded in both capital and mileage). In the investment accounts some of the increases were due to transfers from one account to another. Some of the leased properties now controlled by the system were transferred to account 701 and hotels were transferred from account 701 to account 705.

24.—Assets of the Canadian National Railways System, Dec. 31, 1923 and 1930.

Account No.	Account.	Dec. 31, 1923.	Dec. 31, 1930.	Increase (+) or Decrease (—).
		\$	\$	\$
	INVESTMENTS—			
701	Investment in road and equipment	1,810,908,126	2,111,519,813	+ 300,611,687 ¹
702	Improvements on leased railway property	4,625,329	3,464,460	— 1,160,869
703	Sinking funds	11,637,252	19,134,345	+ 7,497,093
704	Deposits in lieu of mortgaged property sold	391,730	5,617,557	+ 5,225,827
705	Miscellaneous physical property	38,692,890	57,178,042	+ 18,485,152
706 ²	Investments in affiliated companies	28,397,922	26,723,552	— 1,674,370
707	Other investments	4,754,338	2,744,245	— 2,010,093
	Totals	1,899,407,587	2,226,382,014	+ 326,974,427
	CURRENT ASSETS—			
708	Cash	20,498,997	14,481,436	— 6,017,561
711	Special deposits	7,860,845	6,505,523	— 1,355,322
712	Loans and bills receivable	44,868	—	— 44,868
713	Traffic and car service balances receivable	2,974,797	1,369,898	— 1,604,899
714	Net balances receivable from agents and conductors	5,575,839	4,705,254	— 870,585
715	Miscellaneous accounts receivable	11,339,706	7,190,868	— 4,148,838
	Dominion Government, operating deficit on Eastern Lines	—	1,888,872	+ 1,888,872
716	Materials and supplies	53,772,174	42,088,695	— 11,683,479
717	Interest and dividends receivable	409,185	871,721	+ 462,536
718	Rents receivable	288,448	152,478	— 135,970
719	Other current assets	87,102	801,251	+ 714,149
	Totals	102,851,961	80,055,996	— 22,795,965
	DEFERRED ASSETS—			
720	Working fund advances	478,346	360,921	— 117,425
721	Insurance and other funds	5,708,442	10,583,738	+ 4,875,296
722	Other deferred assets	6,497,045	9,454,900	+ 2,957,855
	Totals	12,683,833	20,399,559	+ 7,715,726
	UNADJUSTED DEBITS—			
723	Rents and insurance premiums paid in advance	50,851	301,831	+ 250,980
724	Discount on capital stock	193,500	189,620	— 3,880
725	Discount on funded debt	2,272,093	12,943,599	+ 10,671,506
727	Other unadjusted debits	6,399,226	4,418,119	— 1,981,106
	Totals	8,915,670	17,853,169	+ 8,937,500
	Grand Totals	2,023,859,050	2,344,690,738	+ 320,831,688

¹In 1926 the Hudson Bay Railway, with a ledger value of \$14,944,870, was transferred to the Department of Railways and Canals and in 1928 Canadian Government Railways property, with a ledger value of \$13,477,505, was transferred to the Halifax and Saint John Harbour Commissions; consequently the gross increase was \$28,422,375 greater, or \$329,034,062.

²The decrease in account 706 "Investments in affiliated companies" was largely due to the acquisition of the Central Vermont Railway and the transfer of the investment to account 701, "Investment in road and equipment".

PART III.—ELECTRIC RAILWAYS.¹

The cheap and reasonably rapid conveyance of human beings is a necessity of modern urban life and is supplied throughout Canada by the electric street railway, generally operated by hydro-electric energy which is so important a feature of Canadian economic life.

Historical.—Replacing the horse car systems, used in Montreal and Toronto as early as 1861, electric street railways were first seen in operation in Canada in 1885, when a successful experimental railway was constructed and operated at the Toronto Exhibition grounds. Before many years their safety and convenience

¹Revised and checked by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics. This Branch publishes an annual report on Electric Railways in Canada.

resulted in the discarding of the older system. An electric system 7 miles in length was opened at St. Catharines in 1887, using the double overhead trolley. This was followed by the completion of the Ottawa Electric Railway in 1891, and the electrification of the Montreal and Toronto systems in 1892. The street railways of other eastern cities were generally electrified during the 1890's, while in the newer western cities electricity was used from the commencement. In the cities of Eastern Canada electric street railways are generally operated by private companies under city franchises, while in a considerable number of cities in Ontario and the West the street railways are owned and operated by the municipalities, a fact indicated in Table 28. In 1921, on the expiry of the 30-year franchise of the Toronto Street Railway Co., the railway in this second largest city of Canada was taken over by the city and is now being operated by a transportation commission.

Many difficulties are met in operating the cars during the winter season, owing to snow. This, however, has been overcome by the use of sweepers, scrapers and ploughs. The single overhead trolley system has been found the most suitable and is in general use and during the past few years an increasing number of motor buses have been used; in 1924 only 48 were operated, but by 1930 the number had increased to 520.

In addition to the street railways there is quite a large mileage of electric suburban or interurban lines, especially in the Toronto, Niagara and Lake Erie district, where considerable freight traffic is carried, and on the Pacific coast, where the British Columbia Electric Railway operates several hundred freight cars.

Development of Electric Railway Traffic.—Figures for the year 1893 show that 30 companies, with a paid-up capital of about \$9,000,000, operated 256 miles of railway. By 1897, 35 companies made returns showing 583 miles of track, 1,156 cars, 26,431,017 miles run, 83,811,306 passengers carried and capital of \$18,727,355. In 1904, 44 companies showed 766 miles of track, 2,373 passenger cars, 42,066,124 car miles run, 181,689,998 passengers and capital of \$50,399,188. The statistics for 1930 show that during that year 53 companies with a capital of \$224,089,539, had 2,080 miles computed as single track, 4,100 passenger cars, 520 buses, 516 freight cars and 53 electric locomotives, 140,014,600 car miles run, and 792,701,493 fare passengers. The number of employees in the service of electric railways on Dec. 31, 1930, was 18,340, as compared with 18,801 in 1929. Total salaries and wages for the year 1930 were \$26,954,994, as against \$26,984,061 in 1929.

Statistics of Electric Railways.—Summary statistics of the operation of electric railways in Canada from 1901 to 1930 inclusive are given by years in Table 25. It may be noted in this table that the carriage of freight reached its maximum in 1928, with 3,892,114 tons, while the number of fare passengers carried in 1929 reached a new record of 833,496,866, decreasing in 1930 to 792,701,493. In Table 26 statistics of mileage and equipment are given for the latest four calendar years, and annual statistics of the capital liability of electric railways are furnished from 1908 in Table 27. Detailed figures of the mileage operated, the capital liability, the earnings, operating expenses, employees, and salaries and wages, are given for 1930 in Table 28, while Table 29 shows by years from 1919 to 1930 the number of passengers, employees and others killed and injured on electric railways in Canada.

25.—Summary of Statistics of Electric Railway Operation, years ended June 30, 1901-19, and calendar years 1919-30.

Year.	Single Track Mileage in Operation.	Total Car Mileage.	Passengers.	Freight.	Gross Earnings.	Operating Expenses.	Ratio of Expenses to Receipts.	Em- ployees.
	miles.	miles.	No.	tons.	\$	\$	p.c.	No.
1901.....	552-91	31,750,754	120,934,656	287,926	5,768,283	3,435,162	59-55	-
1902.....	557-59	35,833,841	135,681,402	266,182	6,486,438	3,802,855	58-63	-
1903.....	759-36	38,028,529	155,662,812	371,286	7,233,677	4,472,858	61-83	-
1904.....	766-50	42,066,124	181,689,998	400,161	8,453,609	5,326,516	63-01	-
1905.....	793-12	45,959,101	203,467,217	510,350	9,357,125	5,918,194	63-25	-
1906.....	813-74	50,618,836	237,655,074	506,024	10,966,871	6,675,037	60-87	-
1907.....	814-52	53,361,227	273,999,404	479,731	12,630,490	7,373,251	58-38	-
1908.....	992-03	56,964,881	299,099,309	732,475	14,007,049	8,695,880	62-08	-
1909.....	988-97	60,152,846	314,026,671	-	14,611,484	8,885,235	60-81	10,557
1910.....	1,047-07	65,249,166	360,964,876	852,294	17,100,789	10,121,781	59-19	11,390
1911.....	1,223-73	72,618,806	426,296,792	1,228,362	20,356,952	12,096,134	59-42	13,671
1912.....	1,308-17	82,070,064	488,865,682	1,435,525	23,499,250	14,266,675	60-71	14,760
1913.....	1,356-63	89,005,216	597,863,801	1,957,930	28,216,111	17,765,372	62-96	16,351
1914.....	1,560-82	98,917,808	614,709,819	1,845,923	26,691,007	19,107,818	64-36	16,195
1915.....	1,590-29	96,964,829	562,302,373	1,433,602	26,922,900	18,131,842	67-35	14,795
1916.....	1,673-77	82,516,612	580,094,167	1,936,674	27,416,285	18,099,906	66-02	10,622
1917.....	1,743-54	84,073,046	629,441,997	2,333,539	30,237,664	20,098,634	66-47	11,696
1918.....	1,616-36 ¹	84,435,323 ²	487,365,456 ¹	2,497,530 ¹	24,299,890 ¹	17,535,975 ¹	72-16 ¹	11,646 ¹
1919.....	1,696-52	106,961,607	686,124,263	2,474,892	35,696,532	26,839,071	75-18	17,242
1919 ²	1,686-78	110,206,344	749,334,380	2,374,612	40,698,586	31,385,702	77-12	16,340
1920 ²	1,698-76	114,481,406	804,711,333	2,691,150	47,047,246	37,242,483	79-16	17,341
1921 ²	1,687-37	111,576,949	719,305,441 ³	2,285,886	44,536,332	35,945,316	80-71	17,015
1922 ²	1,724-60	116,711,189	738,908,949	2,445,425	49,660,485	35,986,872	72-47	18,099
1923 ²	1,736-31	119,374,416	737,282,038	3,145,863	50,191,387	36,171,923	72-07	17,779
1924 ²	1,736-77	119,803,072	726,497,729	2,546,928	49,439,559	36,125,213	73-07	17,379
1925 ²	1,737-52	119,684,151	725,491,101	2,706,312	49,626,231	35,426,487	71-39	16,933
1926 ²	1,684-18	122,935,055	748,710,836	3,493,457	51,723,199	36,453,709	70-50	16,961
1927 ²	1,652-15	131,583,717	781,398,194	3,269,028	53,506,401	37,616,568	70-30	18,090
1928 ²	1,653-22	133,689,589	808,023,615	3,692,114	55,632,761	38,782,719	69-71	18,697
1929 ²	1,636-76	139,199,634	833,496,866	3,662,765	58,268,980	40,085,140	68-79	18,801
1930 ²	1,508-99	140,014,000	792,701,493	2,873,528	54,719,259	39,125,515	71-50	18,340

¹Not including Montreal Tramways and several other units. ²Calendar year.

³The report of the Toronto Transportation Commission for the last four months of 1921 would increase this number by about 80,000,000 or possibly bring it up to the 1920 record.

26.—Mileage and Equipment of Electric Railways in the calendar years 1927-30.

Item.	1927.	1928.	1929.	1930.	Equipment.	1927.	1928.	1929.	1930.
	miles.	miles.	miles.	miles.		No.	No.	No.	No.
Length of first main track.....	1,652-15	1,653-22	1,636-76	1,508-99	Passenger cars—				
Length of second main track.....	562-94	565-66	565-27	571-37	closed.....	3,582	3,576	3,670	3,625
					open.....	128	94	106	90
Totals, Main Track.....	2,215-09	2,218-78	2,202-03	2,080-36	combination open and closed.....	1	5	-	-
Length of sidings and turnouts....	284-58	293-94	302-50	286-80	combination passenger and baggage... without electrical equipment.....	21	20	17	16
						377	383	390	369
Totals, Computed as Single Track.....	2,499-67	2,512-72	2,504-53	2,367-16	Totals, Passenger Cars.....	4,109	4,078	4,183	4,100
					Baggage, express and mail cars.....	29	28	30	30
					Freight cars.....	651	629	572	516
					Buses.....	334	399	484	520
					Snow ploughs.....	63	68	80	73
					Sweepers.....	164	168	164	161
					Miscellaneous.....	254	318	291	323
					Locomotives.....	62	61	75	53
					Totals, Units of Equipment.....	5,666	5,749	5,879	5,776

27.—Capital Liability of Electric Railways, years ended June 30, 1908-19, and calendar years 1919-30.

NOTE.—The totals here given do not include \$493,346 aid paid by Governments and municipalities.

Year.	Stocks.	Funded Debt.	Total.	Year.	Stocks.	Funded Debt.	Total.
\$	\$	\$	\$	\$	\$	\$	\$
1908.....	50,295,266	37,114,619	87,409,885	1919 ¹	91,757,418	81,283,922	173,041,340
1909.....	51,946,433	39,658,556	91,604,989	1920 ¹	91,321,955	79,504,449	170,826,404
1910.....	58,653,826	43,391,153	102,044,979	1921 ¹	91,169,885	86,017,551	177,187,436
1911.....	62,251,203	49,281,144	111,532,347	1922 ¹	76,949,185	111,309,789	188,258,974
1912.....	70,829,118	52,012,828	122,841,946	1923 ¹	76,674,185	122,395,685	199,069,870
1913.....	62,079,767	79,155,864	141,235,631	1924 ¹	76,482,085	137,285,575	213,767,660
1914.....	66,311,098	81,284,244	147,595,342	1925 ¹	58,567,242	163,201,978	221,769,220
1915.....	66,696,675	83,647,327	150,344,002	1926 ¹	57,779,518	158,029,002	215,808,520
1916.....	67,738,275	87,157,309	154,895,584	1927 ¹	58,873,778	163,678,939	222,552,717
1917.....	70,606,520	90,628,219	161,234,739	1928 ¹	50,653,071	170,649,165	221,302,236
1918.....	73,864,820	93,388,273	167,253,093	1929 ¹	54,453,321	167,969,494	222,422,815
1919.....	93,042,368	78,852,188	171,894,556	1930 ¹	53,048,929	171,040,610	224,089,539

¹Calendar year.

28.—Mileage Operated, Capital, Earnings, Operating Expenses, Employees, and Salaries and Wages Bills of Electric Railways in Canada, year ended Dec. 31, 1930.

Name of Railway.	Mileage Operated.	Capital Liability.	Gross Earnings.	Operating Expenses.	Em- ployees.	Salaries and Wages.
	miles.	\$	\$	\$	No.	\$
Brandon Municipal ¹	7-65	450,000	33,214	57,767	23	30,502
Brantford and Hamilton.....	23-19	960,000	62,832	65,384	28	29,267
Brantford Municipal ¹	17-73	500,750	139,820	127,685	70	77,609
British Columbia.....	220-57	23,621,035	5,750,476	4,630,806	1,973	3,153,659
Calgary Municipal ¹	53-06	2,815,097	940,780	640,033	256	476,081
Canadian National Electric Railways; Toronto Sub- urban District.....	49-06	4,378,000	144,451	211,563	87	118,132
Cape Breton Electric Co.....	25-08	2,535,000	202,742	188,148	74	110,286
Cornwall Street Ry., Light and Power Co.....	4-50	330,000	103,945	64,373	41	55,827
Edmonton Radial ¹	33-23	2,812,670	815,146	549,357	274	388,035
Fort William Street ¹	20-56	1,229,000	174,884	159,165	62	93,656
Grand River.....	18-63	551,000	326,901	266,494	173	194,479
Hamilton, Grimsby and Beamsville.....	22-60	235,000	86,331	98,078	35	44,525
Hamilton Radial.....	2-88	74,900	15,361	8,456	20	6,273
Hamilton Street.....	18-00	3,205,000	1,497,164	1,133,458	516	631,221
Hull Electric.....	16-54	292,000	277,592	227,667	103	146,132
Hydro-Electric Railways:						
Essex District ^{1,2}	43-93	5,416,205	1,027,472	923,834	311	440,466
Guelph District ^{1,2}	6-41	395,815	84,063	80,072	43	44,164
International Transit Co.....	4-97	150,000	62,900	43,729	19	26,767
Kitchener Public Utilities Street Ry. Dept. ^{1,2}	6-55	218,177	126,617	85,629	34	53,480
Lake Erie and Northern.....	51-00	3,817,500	279,935	256,412	133	138,280
Lethbridge Municipal ¹	8-25	466,171	53,818	49,069	20	32,758
Lévis Tramways Co.....	11-50	1,115,000	159,959	125,394	88	90,902
London and Port Stanley (Lessors).....		1,775,185	-	-	-	-
London and Port Stanley (Lessees).....	24-50	2,003,506	497,431	463,208	126	177,792
London Street.....	26-65	1,112,480	609,809	513,413	219	310,691
Moncton Tramways, Elec- tricity and Gas Co., Ltd..	2-72	1,213,400	9,160	21,867	8	11,574
Montreal Tramways.....	154-98	56,211,933	15,279,418	9,676,894	5,101	7,320,567
Montreal and Southern Counties ³	56-04	500,000	652,497	541,482	232	302,850
Moose Jaw.....	9-00	795,372	69,514	67,883	28	44,204
Nelson Municipal ¹	3-38	46,000	17,260	29,225	141	19,366

¹Municipally owned. ²Operated by Hydro-Electric Power Commission of Ontario. ³Stock owned by Canadian National Railways.

28.—Mileage Operated, Capital, Earnings, Operating Expenses, Employees, and Salaries and Wages Bills of Electric Railways in Canada, year ended Dec. 31, 1930—concluded.

Name of Railway.	Mileage Operated.	Capital Liability.	Gross Earnings.	Operating Expenses.	Employees.	Salaries and Wages.
	miles.	\$	\$	\$	No.	\$
New Brunswick Power Co.	16.60	5,371,500	410,105	318,841	139	174,133
Niagara Falls Park and River Division of the Inter. Ry.	11.65	600,000	133,050	162,176	43	82,518
Niagara, St. Catharines and Toronto ²	69.44	925,000	890,559	740,376	392	514,693
Nipissing Central ⁶	10.77	159,000	51,269	59,748	20	30,221
Nova Scotia Tramways and Power Co.	14.80	7,222,180	758,408	514,282	204	360,664
Oshawa ²	12.18	40,000	288,925	201,817	118	146,710
Ottawa	29.31	6,334,400	1,764,166	1,156,012	551	806,782
Pictou County Electric Co. ⁸	—	—	55,291	38,922	—	26,207
Port Arthur Civic ¹	13.43	551,984	189,687	145,672	56	92,944
Quebec Railway, Light and Power Co. ⁴	23.43	—	1,164,256	1,008,457	507	640,538
Regina Municipali ¹	25.59	1,946,018	398,685	280,536	119	202,610
Saskatoon Municipali ¹	15.33	1,400,419	370,639	254,063	103	169,319
Sarnia Street.	8.75	179,200	61,982	58,752	29	38,991
Shawinigan Falls Terminal.	2.34	440,267	76,513	90,037	27	44,125
Sherbrooke Railway and Power Co.	10.30	2,500,500	136,868	139,911	74	83,490
Suburban Rapid Transit Co.	15.94	600,000	160,951	132,391	—	—
Sudbury, Copper Cliff Suburban.	7.90	248,100	125,780	98,692	19	27,660
Sydney and Glace Bay ⁷	—	833,000	—	—	82	—
Three Rivers Traction Co.	9.10	963,700	156,618	162,409	82	93,455
Toronto Transportation Commission ¹	119.46	35,881,900	13,903,096	9,018,468	4,417	6,875,923
Toronto and York Radial ^{1,5,9}	—	—	58,761	79,348	—	—
Township of York and Town of Weston ^{1,5}	8.06	1,219,925	300,954	214,273	—	—
Windsor, Essex and Lake Shore Rapid ^{1,3}	26.12	1,300,000	165,070	188,704	63	75,074
Winnipeg.	65.65	35,246,256	3,424,908	2,625,344	1,229	1,845,535
Winnipeg, Selkirk and Lake Winnipeg.	39.68	900,000	171,176	129,739	37	53,857
Totals.	1,508.99	224,089,539	54,719,259	39,125,515	18,340	26,954,994

¹Municipally owned. ²Owned by Canadian National Rys. ³Operated by the Hydro-Electric Power Commission of Ontario. ⁴Citadel division operations only. Total capital and operations of the Montmorency division are included in steam railways. ⁵Operated by Toronto Transportation Commission. ⁶Provincially owned. ⁷Operated by Cape Breton Electric Co. ⁸Ceased operations June 20, 1930. ⁹Ceased operations Mar. 15, 1930.

29.—Number of Passengers, Employees and Others Killed and Injured on Electric Railways, calendar years 1919-30, with Totals from 1894 to June 30, 1919.

NOTE.—Details for years ended June 30, 1900-19, are given on p. 611 of the 1926 Year Book.

Year.	Passengers.		Employees.		Others.		Totals.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Totals, 1894 to June 30, 1919.	259	23,802	162	5,009	833	10,698	1,254	39,419
1919.	4	1,717	29	951	58	1,505	91	4,173
1920.	9	1,968	7	658	75	1,434	91	4,060
1921.	5	1,110	8	609	35	666	48	2,385
1922.	6	2,260	10	873	31	700	47	3,833
1923.	6	2,465	11	1,652	45	790	62	4,907
1924.	2	2,279	6	1,262	54	824	62	4,365
1925.	9	2,272	5	1,736	37	744	51	4,752
1926.	3	2,420	7	1,642	60	879	76	4,941
1927.	—	2,090	7	1,508	71	1,260	78	4,858
1928.	1	2,735	12	1,114	86	1,139	99	4,988
1929.	5	2,808	5	1,200	93	1,372	103	5,380
1930.	8	2,790	6	1,003	50	1,269	64	5,062

PART IV.—EXPRESS COMPANIES.¹

"Express service is an expedited freight service on passenger trains". But express companies do not own the means of performing their services; they use railway facilities by virtue of contracts with the railway companies. Express companies in Canada have had close relations with the railways practically from the beginning. A brief history of the various express companies will be found on pp. 611-612 of the 1926 Year Book.

Before 1915, an express company in Canada was not liable for delay or damage caused by anything quite beyond its control, thus maintaining itself as an entity separate from the railway company. But in 1915 this liability was qualified, and thenceforth an express company became liable for delay or injury of goods if either was caused by the railway company in whose cars the goods were being carried.

Goods are sent by express for quick transit, so that express rates do not compete with freight rates. Thus in its first tariff the Dominion Express Co., in pursuance of its contract with the Canadian Pacific Railway, gave a rate of $2\frac{1}{2}$ times the maximum first-class railway freight rate for the same goods carried the same distance. The majority of the contracts between express and railway companies for carrying express freight are on the basis of a percentage of the gross express revenue. The rates are subject to the approval of the Board of Railway Commissioners.

Express Company Operations.—During 1930, the latest year for which the statistics of the Transportation Branch of the Dominion Bureau of Statistics are available, there were four Canadian and one American express organizations operating in Canada. The Canadian Pacific Express Co., formerly the Dominion Express Co., is a subsidiary of the Canadian Pacific Railway and handles the express business on the railways and the inland and ocean steamship lines of the parent company. The express business of the Canadian National system is handled by a department of the railway. The British America Express Co. operates over the Algoma Central and Algoma Eastern Railways. The Central Canada Express Co. was formerly operated over the Central Canada, the Edmonton, Dunvegan and British Columbia, and the Alberta and Great Waterways Railways, but in 1927 its business was taken over by the Canadian National Express Department. With the amalgamation of these railways in 1929 and formation of the Northern Alberta Railways Company, the express business was handled by a department of the new company from Nov. 1, 1929. The Railway Express Agency, Incorp. operates over the Canadian sections of United States railways and over the route from Skagway to points in the Yukon Territory. These companies are organized under powers conferred by Acts of the Dominion Parliament and their business consists in the forwarding of parcels, the transfer of baggage and the issue of money orders, travellers' cheques, letters of credit and other forms of financial paper (Table 32). The total capital liabilities of the two Canadian companies and of the Canadian National Express Department stood at \$8,492,213 on Dec. 31, 1930.

¹ Revised and checked by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics. This Branch issues an annual report on Express Statistics.

Statistics of the receipts and expenses of express companies in Canada are given in summary form for all companies for the years 1919 to 1930 in Table 30, and for each company for the year 1930 in Table 31. In these tables the amounts paid by express companies to the carriers, *i.e.*, railways, steamship lines, etc., for transporting the express matter, are shown under the heading "express privileges". Table 31 also shows the mileage operated by each company in 1930. Of the total of 62,745 miles, 42,702 were over steam railways, 348 over electric railways, 14,227 on ocean steamship services (mainly by the Canadian Pacific lines) and 5,258 miles on inland or coastal steamboat routes.

30.—Summary Statistics of Revenues and Expenses of Express Companies, 1919-30.

NOTE.—Similar figures for the years ended June 30, 1911-19, were published at p. 673 of the 1927-28 Year Book.

Calendar Year.	Gross Earnings.	Operating Expenses.	Express Privileges.	Net Operating Revenue.
	\$	\$	\$	\$
1919.....	24,933,219	13,227,652	12,936,615	-1,231,048
1920.....	30,512,504	16,120,880	16,009,460	-1,617,836
1921.....	32,504,894	15,601,187	16,549,915	353,792
1922.....	28,697,332	13,596,518	14,581,789	519,025
1923.....	27,625,700	13,217,780	14,342,410	65,511
1924.....	26,196,017	12,723,651	13,557,168	-84,802
1925.....	25,876,342	12,336,485	13,312,960	226,897
1926.....	26,554,378	12,442,257	13,466,863	645,258
1927.....	26,532,182	12,548,374	13,275,355	708,453
1928.....	27,674,270	13,032,376	13,459,187	1,182,707
1929.....	27,758,385	13,480,028	13,598,575	679,782
1930.....	24,352,181	12,759,439	12,380,060	-787,318

31.—Revenues, Expenses and Operating Mileage of Express Companies, by Companies, calendar year 1930.

Company.	Gross Earnings.	Operating Expenses.	Express Privileges.	Net Operating Revenue.	Mileage Operated.
	\$	\$	\$	\$	No.
British America Express.....	28,975	8,874	14,488	5,613	410
Canadian National Railways.....	12,842,099	6,576,702	5,812,317	453,080	24,330
Canadian Pacific Express.....	10,203,187	5,720,041	5,763,371	-1,280,225	32,618
Northern Alberta Railways.....	147,699	44,666	80,628	22,405	878
Railway Express Agency.....	1,130,221	409,156	709,256	11,809	4,509
Totals.....	24,352,181	12,759,439	12,380,060	-787,318	62,745

32.—Business Transacted by Express Companies in Financial Paper in the calendar years 1927-30.

Description.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$
Money orders, domestic.....	61,898,551	63,968,315	62,812,788	52,941,500
Money orders, foreign.....	1,318,094	1,338,257	1,494,848	1,190,244
Travellers' cheques, domestic.....	3,844,700	5,180,857	5,474,960	5,928,660
Travellers' cheques, foreign.....	1,331,335	1,558,322	1,789,439	1,115,289
"C.O.D." cheques.....	7,448,715	8,295,720	8,206,098	7,194,178
Telegraphic transfers.....	486,821	492,691	561,414	557,869
Other forms.....	1,652,317	2,331,129	2,335,914	1,707,910
Totals.....	77,980,533	83,165,201	82,675,461	70,635,650

PART V.—ROADS AND HIGHWAYS.¹

Historical.—The early roads were auxiliary to water routes as avenues of transportation. Their use became common during the summer season, when portages were necessary to avoid obstacles to river and lake travel, and during the winters, when ice prevented navigation and snow covered the inequalities of the ground. Even the extensive system of waterways of Eastern Canada was an inadequate means of communication between points of settlement in a rapidly growing colony, and the need for overland routes manifested itself in the introduction of the system of common roads which prevailed under the old *régime*. Not only did the crude early roads serve the needs of the settlers, but also those of the British, French and American armies during the numerous campaigns. Soldiers were frequently employed, during times of peace, in road construction in different parts of Upper and Lower Canada.

The first important highway in Canada extended along the north shore of the St. Lawrence from Quebec to Montreal, being gradually completed with the growth of the French settlements. In Upper Canada, one of the earliest roads (Yonge St.), was that from Toronto to lake Simcoe, completed in 1794 under the direction of Gov. Simcoe, the work being done by the Queen's Rangers. This road not only gave access to the area north of Toronto, but also provided a more convenient route than that of the Ottawa river from the trading posts on the Upper Lakes to the centres of population along the St. Lawrence. Montreal was joined to Kingston by road in 1816, and in the following year to Toronto. Thereafter other highways to inland settlements, from points served by water routes, began to increase in number, as it became apparent that they were essential to the commercial life of the country as a means of transporting supplies to the settlers and of bringing their products to the central markets of the colony. The system of posts, which had been established about the beginning of the nineteenth century, necessitated passable routes between the various points, and by 1827 a through road was available between Halifax and Amherstburg, comprising for the most part the old Kempt road, the York road, Dundas street and the Baldoon road. From this trunk line of communication branch roads extended north and south to the more important centres of population in the two Canadas.

The cost of construction of these roads was high, and travel by stage coach was tedious and costly. As late as 1850 some points in central Ontario were still inaccessible to any vehicle. Later years, however, have brought with them improved methods of construction and a resulting reduction in expenses, together with an improvement in the wearing qualities of the more important highways. The growth of motor traffic has played a conspicuous part in the recent movement towards increased and improved road construction. In the older provinces of the East it has been a question of improving the existing roads and of building highways for the use of through traffic between the larger cities, while in the western provinces it has been more a matter of replacing the prairie and mountain trails with roads fit for modern tourist and other traffic.

A table of road mileage in Canada follows. When it is considered that throughout the Dominion there are about 25 persons to every mile of road and that on an average there is one mile of road for every 9 square miles of land, the magnitude

¹ Revised by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics, which publishes an annual report entitled "Highways and Motor Vehicles in Canada".

of the problem faced in the construction of these traffic routes is illustrated. A small population scattered over a large area has made this, like other transportation problems, particularly difficult of solution.

33.—Classification of Canadian Highways, by Provinces, Dec. 31, 1930.¹

Province.	Unimproved.	Improved Earth.	Gravel.	Water-bound Macadam.	Bituminous Macadam.	Bituminous Concrete.	Cement Concrete.	Total.
	miles.	miles.	miles.	miles.	miles.	miles.	miles.	miles.
P. E. Island.....	2,190.2	1,301.0	153.0	—	—	4.7	0.3	3,650.0
Nova Scotia.....	7,418.2	3,388.3	3,833.5	30.2	11.4	—	—	14,681.6
New Brunswick....	3,000.0	4,229.0	4,581.0	—	13.0	—	—	11,825.0
Quebec.....	19,388.5	349.4	11,269.9	1,343.2	214.3	371.7	103.3	33,040.3
Ontario.....	—	21,182.0 ²	38,547.9	3,468.2	699.5	748.4	1,268.8	65,922.8
Manitoba.....	23,056.0	—	3,071.0	—	—	25.0	—	26,152.0
Saskatchewan.....	60,396.0	92,267.0	1,926.0	—	—	—	—	154,589.0
Alberta.....	43,191.0	17,909.0	1,326.0	—	—	—	—	62,426.0
British Columbia.	—	14,609.2 ³	6,639.4	150.2	506.9	125.3	48.6	22,086.0
Totals.....	158,639.9	155,234.9	71,347.7	4,991.8	1,445.1	1,275.1	1,421.0	394,372.7³

¹Manitoba figures are for April 30, and B.C. figures for Mar. 31, 1930.

²Includes some unimproved earth roads.

³Includes 17.2 miles of other classes.

Good Roads Movements.—The building of new roads and the improvement of those already in use is a matter of such general interest that numerous organizations have been developed throughout the country for the purpose of advising and assisting the various Governments in the work. Good roads associations, assisted by the automobile and motor clubs, are to be found in most of the provinces, for the distribution of propaganda and the education of the public in the need or improved highway routes. Provincial revenues from the taxation of motor vehicles and gasoline are very generally allocated to the construction and maintenance of improved highways. Thus Ontario alone, in its fiscal year ended Oct. 31, 1930, spent for highway maintenance and construction \$24,000,000, as compared with a revenue of \$16,000,000 from gasoline tax, motor licences, etc.

The Canada Highways Act.—By c. 54 of the Statutes of 1919, the Dominion Parliament authorized the expenditure of \$20,000,000 for the purpose of constructing and improving the highways of Canada during the five years succeeding the passage of the Act. In its apportionment, grants of \$80,000 were made to each province during each of the five years, the remainder being allotted in proportion to their respective populations. Details as to cost, time, methods of construction, etc., of all roads built under the scheme were to be arranged between the Minister of Railways and Canals and the various Provincial Government Departments. By c. 4 of 1923 and c. 4 of 1925 the operation of the Act was extended to April 1, 1928. A table on p. 669 of the Canada Year Book, 1929, shows the working of the Act and the allocation of expenditure as between the Dominion and the various provinces down to Mar. 31, 1928. The grant has been expended and no further Dominion appropriation has been made under this Act.

PART VI.—MOTOR VEHICLES.

The earliest motor vehicles were propelled by steam, the history of the gasoline motor car commencing with the successful construction of a gasoline engine by Daimler in 1884. Until 1900 France remained the headquarters of the industry,

possessing in that year more than half of the 10,000 cars in operation in Europe, while in the United States the number of cars was only about 700. Shortly afterwards, the development of the Ford car resulted in a keen competition to bring motor cars within the reach of the average man, profits being secured from large production rather than high prices. Detroit became the centre of the automobile industry of the United States and the Canadian side of the Detroit river became the headquarters of the Canadian industry. As a consequence, the population of the border towns Windsor, Walkerville and Sandwich greatly increased between 1911 and 1921, while the town of Ford (now East Windsor), which had no existence in 1911, had 5,870 inhabitants in 1921 and 14,251 in 1931, when the aggregate for the "Border Cities" was 98,179. Problems of regional location have resulted, during more recent years, in a gradual shifting of the centre of the industry, and the Toronto and Oshawa districts now rival in importance the older established centre on the Detroit river.

Like many other inventions, the motor car commenced as a toy, then became a luxury of the rich, while now it ranks as a necessity of life to a large proportion of the population. In the past few years, the motor truck and the motor bus have assumed considerable economic importance, and are separately classified in Table 35.

Up to the present the motor vehicle has affected the passenger traffic of the steam and electric railways more than the freight. Ten interurban and eight urban electric railways have recently ceased operation, and passenger traffic on the smaller electric railways and on the steam railways has declined during the last decade instead of increasing with increased population. This diversion of passenger traffic has been effected largely by the private automobile, although the motor bus is rapidly becoming more important and is now operating between all large centres. The motor truck is also carrying an increasing amount of freight, although no statistics are as yet available showing the tonnage handled.

The automobile manufacturing industry in Canada has made very rapid growth since its beginning about the year 1905, two of its chief tendencies during the period having been a consolidation of smaller firms into large units and the adoption of large-scale methods of production, similar in many ways to those of the United States industry. A brief statement of its history, with statistics of production, etc., is to be found on pp. 432-436 of the Canada Year Book, 1924, while more recent statistics of production will be found in Chapter XIV of this volume dealing with manufactures.

Section 1.—Statistics of Motor Vehicle Operation.¹

Registration.—The increase in the use of motor vehicles in Canada has been very rapid. In 1904 the number of motor vehicles registered in Ontario was only 535. In 1907, 2,130 motor vehicles were registered in six provinces and in 1908, 3,033 in eight provinces, the motor car being at that time prohibited in Prince Edward Island. From these small beginnings Table 34 shows an increase to 1,206,836 motor vehicles by 1931, although there was a decrease for the latest year due to the general depression and especially to conditions in the western provinces. In Table 35 are given by provinces the numbers of motor vehicles registered in 1931, classified as passenger cars, commercial cars or trucks, motor buses and motor cycles.

¹Revised by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics. The subject is treated in greater detail in "Highways and Motor Vehicles in Canada", published annually by this Branch.

Registrations of motor vehicles in 1931 showed for the first time, a decrease from the previous year, the total number being 1,206,836 which was 33,052 less than in 1930. The most significant feature was the decrease in the new registrations which was much greater than in the case of total registrations, indicating that old cars were retained in service and expenditures for new cars were greatly reduced. All the provinces did not segregate new registrations. In Quebec the total passenger registrations increased by 3 p.c. but new registrations decreased by 35 p.c. In Ontario there were 15,158 fewer new passenger car registrations but practically no change in total passenger car registrations. Similar conditions existed in Nova Scotia, New Brunswick and British Columbia. It is quite probable that the decrease in new cars was even greater in the Prairie Provinces.

The decrease in registrations and the increase in population raised the average population per registration from 8.2 in 1930 to 8.6 in 1931. Canada still ranked fourth in this respect, the United States being first with 4.6 and New Zealand and Hawaii being next with 7 each. On the basis of the total registration of 1,206,836, only three countries had larger numbers in 1930, *viz.*, United States, 26,523,779; United Kingdom and Northern Ireland, 1,524,339; and France, 1,459,650.

34.—Number of Motor Vehicles Registered in Canada, by Provinces, calendar years 1907-31.

NOTE.—The number of motor vehicles in Yukon is included in the totals for Canada, 1914-30.

Year.	P.E. Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Mani- toba.	Saskat- chewan.	Al- berta.	British Colum- bia.	Canada.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1907.....	-	62	-	254	1,530	-	54	55	175	2,130
1908.....	-	65	104	296	1,754	412	74	65	263	3,033
1909.....	-	69	167	485	2,452	662	149	275	504	4,763
1910.....	-	148	299	786	4,230	1,524	531	423	1,026	8,967
1911.....	-	228	483	1,878	11,339	2,436	1,304	1,631	2,220	21,519
1912.....	-	456	700	3,535	16,266	4,099	2,286	2,505	4,289	34,136
1913.....	26	511	824	5,452	23,700	5,475	4,659	3,773	6,138	50,558
1914.....	31	1,324	1,328	7,413	31,724	7,359	8,020	4,728	7,628	69,598
1915.....	34	1,841	1,900	10,112	42,346	9,225	10,225	5,832	8,360	89,944
1916.....	50	3,012	2,965	15,335	54,375	12,765	15,990	9,516	9,457	123,464
1917.....	303	5,350	5,251	21,213	83,308	17,507	32,505	20,624	11,645	197,799
1918.....	639	8,100	6,434	26,897	114,376	24,012	50,531	29,300	15,370	275,740
1919.....	967	10,210	8,306	33,547	144,804	30,118	56,855	34,000	22,420	341,316
1920.....	1,419	12,450	11,196	41,562	177,561	36,455	60,325	38,015	28,000	407,064
1921.....	1,751	14,205	13,615	54,670	206,521	40,215	61,184	40,235	32,900	465,378
1922.....	2,167	16,159	13,746	61,995	240,933	42,200	61,367	40,642	34,526	513,821
1923.....	2,483	18,354	16,829	72,448	280,996	42,428	67,337	44,841	41,053	586,850
1924.....	2,583	20,764	19,975	85,145	308,693	44,322	70,754	51,148	48,626	652,121
1925.....	2,955	22,853	19,022	97,657	344,112	51,241	79,078	54,357	56,618	728,005
1926.....	3,460	25,879	21,541	108,332	388,728	57,857	97,267	65,590	68,009	836,794
1927.....	4,388	30,059	24,544	128,459	436,120	63,905	106,599	73,830	77,612	945,673
1928.....	5,430	35,256	28,072	148,473	491,140	71,163	121,615	89,249	86,244	1,076,818
1929.....	6,141	40,014	31,852	169,547	544,476	77,840	130,229	99,650	95,647	1,195,599
1930.....	7,402	43,036	34,833	178,976	564,669	79,308	129,861	102,652	98,943	1,239,888
1931.....	7,744	43,735	33,730	179,572	563,824	75,564	108,563	95,686	98,220	1,206,836

In Table 35 the registration of motor vehicles in 1930 and 1931 is given according to the general type or purpose of the cars in use in each of the provinces.

35.—Types of Motor Vehicles Registered in Canada, by Provinces, in the calendar years 1930 and 1931.

Province.	Passenger Cars. ¹	Commercial Cars or Trucks. ²	Motor Buses.	Motor Cycles.	Dealers' Cars.	Total.
	No.	No.	No.	No.	No.	No.
1930.						
Prince Edward Island.....	6,611	738	1	26	26	7,402
Nova Scotia.....	36,078	6,489	—	319	150	43,036
New Brunswick.....	30,318	4,148	51	172	144	34,833
Quebec.....	147,821	27,820	524	2,383	428	178,976
Ontario.....	491,007	67,084	643	3,924	2,011	564,669
Manitoba.....	68,550	9,780	—	520	458	79,308
Saskatchewan.....	108,161	18,106	651	275	2,668	129,861
Alberta.....	85,604	15,068	—	447	1,533	102,652
British Columbia.....	80,766	16,284	228	1,352	313	98,943
Yukon.....	134	66	—	9	—	209
Totals.....	1,055,050	165,583	2,098	9,427	7,731	1,239,889
1931.						
Prince Edward Island.....	6,917	802	—	25	—	7,744
Nova Scotia.....	36,431	6,731	30	386	157	43,735
New Brunswick.....	29,223	4,089	62	178	178	33,730
Quebec.....	146,266	28,384	517	2,318	2,087	179,572
Ontario.....	489,713	68,437	—	4,070	1,604	563,824
Manitoba.....	64,940	9,730	—	540	354	75,564
Saskatchewan.....	91,846	15,788	41	306	582	108,563
Alberta.....	79,225	15,034	85	383	959	95,686
British Columbia.....	79,699	16,799	3	1,434	288	98,220
Yukon.....	125	61	4	8	—	198
Totals.....	1,024,385	165,855	739	9,648	6,209	1,206,836

¹Includes taxicabs.

²Includes tractors, road machines, flushers, and municipal fire engines, etc., in Ontario and in Quebec.

³Included with passenger cars.

Government Revenue.—The taxation of motor vehicles, garages, chauffeurs, etc., is becoming a lucrative source of Provincial Government income. In every province the operation of automobiles and motor cycles is dependent on carrying licences duly issued by the various authorities, while similar licences permit the maintenance of garages and the driving of cars or trucks by hired chauffeurs. Perhaps the most recent form of levy on the use of motor vehicles is the gasoline tax, which has been assessed in all provinces since 1927. The accompanying table (36) shows the provincial revenue for the years 1930 and 1931, indicating, at the same time, the more important sources from which it is derived.

36.—Provincial Revenues from the Taxation of the Distribution and Operation of Motor Vehicles, for the years 1930 and 1931.

Province.	Passenger Cars.	Trucks, etc.	Motor Cycles.	Dealers' Licences.	Garages. ¹	Operators and Chauffeurs.	Mileage Tax on Motor Buses and Trucks.	Gasolene Tax.	Total, including Miscellaneous Revenue.
	\$	\$	\$	\$	\$	\$	\$	\$	\$
1930.									
P. E. Island.....	129,370	12,306	154	1,230	—	1,047	—	128,366	274,360
Nova Scotia.....	779,216	158,839	—	9,211	—	78,725	1,947	851,725	1,904,205
New Brunswick.....	625,978	181,145	—	7,662	805	56,976	—	659,797	1,536,784
Quebec.....	5,182,324 ²	—	—	—	—	—	40,297	4,075,368	9,373,585
Ontario ⁴	2,881,891	1,442,762	11,084	43,336	27,930	632,243	162,372	10,756,836	16,323,030
Manitoba.....	866,398	112,585	2,534	14,792	—	68,506	—	1,099,778	2,179,672
Saskatchewan.....	1,422,555	419,611	1,617	42,705	233	11,390	—	1,538,556	3,493,105
Alberta.....	1,528,805	360,886	2,602	37,228	511	25,297	18,013	1,939,048	3,953,975
British Columbia.....	1,635,868	421,852	7,483	20,092	—	55,238	—	1,605,751	3,780,348
Yukon.....	1,310	640	27	—	—	—	—	—	2,438
Totals.....	15,053,725³	—	—	—	—	—	222,629	22,655,225	42,821,508
1931.									
P.E. Island.....	117,784	13,818	125	1,345	—	1,365	—	112,867	248,565
Nova Scotia.....	807,446	221,088	2,336	7,382	—	90,869	1,708	878,082	2,067,694
New Brunswick.....	612,445	165,795	—	6,613	5,382	57,250	4,017	696,451	1,574,035
Quebec.....	2,977,026	1,364,424	7,523	20,870	—	970,535	16,292	4,405,160	9,895,772
Ontario ⁴	3,066,140	1,482,243	11,770	35,498	25,605	709,058	99,322	10,810,914	16,606,222
Manitoba.....	778,490	114,456	2,353	9,750	—	98,563	—	1,094,700	2,115,259
Saskatchewan.....	1,229,698	292,922	1,758	18,495	16,831	24,574	—	1,310,147	2,924,126
Alberta.....	1,075,320	258,679	1,773	23,575	1,290	18,597	57,719	1,472,068	2,931,729
British Columbia.....	1,582,442	413,660	7,528	16,594	—	46,423	—	1,765,700	3,865,253
Yukon.....	1,220	900	24	224	—	—	—	—	2,372
Totals.....	12,248,011	4,327,995	—	140,346	—	2,017,234	—	22,546,119	42,231,027

¹Revenue not segregated. ²No gasolene tax. ³Revenue figures for Ontario are for fiscal years ended Oct. 31. ⁴Includes total, not segregated, of first six columns for Quebec. ⁵Includes gasolene stations.

Imports and Exports of Motor Vehicles.—Imports and exports of motor vehicles in the fiscal years ended 1908 to 1931 are shown, by number of cars and by values, in Table 37. In the earlier years the imports of cars far exceeded the exports, but as the Canadian automobile manufacturing industry became established, exports commenced to exceed imports and, in the four fiscal years up to and including 1926, averaged between two or three times the value of the imports. During the fiscal year 1927, however, while the exports almost maintained the high figures of previous years, the imports increased so much as again to approach the value of the exports, and in the fiscal year 1928 the imports exceeded the exports by nearly \$9,000,000, owing to a continued increase in the importation of motor vehicles of all kinds and to the contraction in exports caused by the closing down of the factories of one of the largest makers of low-priced cars, pending the introduction of new models. In the fiscal year 1929, with this firm again producing, the total number of cars exported was more than double the number imported, and the proportion was about the same in 1930. In 1931, however, both exports and imports were reduced by more than a half. The importation of parts had increased with the growth of the industry and amounted in the fiscal years ended Mar. 31, 1928 and 1929, to \$33,237,181 and \$55,761,414 respectively, but decreased in 1930 to \$35,746,929 and in 1931 to \$19,597,213. In the same fiscal years exports (including re-exports) of automobile parts were \$3,304,937, \$3,804,743, \$3,555,523 and \$1,933,048 respectively.

37.—Canadian Imports and Exports of Motor Vehicles, fiscal years ended Mar. 31, 1908-31.

Fiscal Year.	Imports of Motor Vehicles.				Exports of Motor Vehicles (including re-exports).			
	Passenger.		Freight. ¹		Passenger.		Freight. ²	
	No.	\$	No.	\$	No.	\$	No.	\$
1908.....	674	912,971	-	-	205	320,708	-	-
1909.....	533	585,097	-	-	279	450,127	-	-
1910.....	1,424	1,732,215	-	-	448	627,469	-	-
1911.....	3,488	4,235,196	-	-	787	892,212	-	-
1912.....	6,022	6,511,115	-	-	2,156	2,039,993	-	-
1913.....	8,377	9,738,839	-	-	4,091	2,952,988	-	-
1914.....	6,288	7,213,375	-	-	6,691	4,321,369	-	-
1915.....	5,476	4,888,704	-	-	5,579	3,290,234	-	-
1916.....	8,055	5,089,329	-	-	17,493	9,223,813	-	-
1917.....	12,037	7,981,177	327	423,824	10,331	5,637,465	-	-
1918.....	16,118	11,317,245	964	1,275,179	8,829	4,471,521	-	-
1919.....	6,473	5,326,510	1,744	2,274,748	11,867	6,328,447	2,584	1,347,521
1920.....	10,805	11,204,461	2,274	3,831,084	20,883	13,589,423	4,166	2,319,629
1921.....	5,907	8,399,537	1,706	3,578,938	15,870	11,867,425	3,441	2,733,775
1922.....	7,181	9,501,362	806	1,537,765	13,676	7,879,845	1,314	673,038
1923.....	11,402	11,857,165	1,082	1,889,105	45,372	25,987,515	3,726	1,456,795
1924.....	9,549	9,532,350	1,340	1,910,808	54,939	27,566,869	15,419	5,545,225
1925.....	8,835	8,726,714	934	1,364,664	44,626	22,393,397	11,790	4,055,796
1926.....	14,935	14,022,814	1,189	1,772,414	61,860	29,888,014	19,238	6,300,327
1927.....	29,202	23,852,455	2,548	3,200,626	51,639	24,244,987	20,423	6,899,526
1928.....	35,783	29,234,603	4,208	5,187,889	32,076	19,833,969	15,115	5,611,929
1929.....	42,447	34,173,547	7,417	8,795,929	72,524	31,654,942	31,499	11,945,468
1930.....	33,834	28,060,872	5,078	6,403,794	50,873	23,690,765	29,732	12,140,486
1931.....	17,058	13,353,529	2,937	3,913,361	24,739	11,079,979	13,584	5,289,455

¹Freight automobiles were classified with passenger automobiles in figures of imports until 1917.

²Freight automobiles were classified with passenger automobiles in figures of exports until 1919.

Section 2.—Motor Vehicle Acts and Regulations.¹

In all provinces each person who operates a car must be licensed as a chauffeur, an operator, or a beginner. Chauffeurs must be 18 years of age or over (in Saskatchewan chauffeur's licences are granted to persons between 16 and 18 years of age but such applicants must pass a special examination), and other drivers 16 years of age or over in Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan and Alberta. In Quebec all drivers of cars must be at least 18 years of age and in Ontario all drivers between 16 and 18 years of age, as well as those operating as chauffeurs for hire, must qualify for and hold chauffeur's licences. In British Columbia no person under 17 years of age may drive a motor vehicle, except that a person between 15 and 17 years of age may obtain a special permit upon application of the parent or guardian and after passing a special examination; no chauffeur under 21 years of age may operate a motor vehicle carrying passengers for hire unless he is the holder of a special permit — there are three classes of chauffeur's licences. In the Yukon Territory no male under 16 and no female under 18 years of age may drive a motor vehicle.

The following is a brief synopsis of the regulations in force in each province.

Prince Edward Island.—Under the Highway Traffic Act, 1930, and regulations, all cars must be registered in the office of the Provincial Secretary. In addition to a registration fee of \$2.50 for cars not previously registered in the province and a marker fee of \$1, an annual tax of 70 cents per 100 pounds weight is payable on Mar. 1, but is not required of non-residents if the province or State of origin grants exemptions to Prince Edward Island privately owned passenger motor

¹The information in this Section has been revised by the officials in charge of the administration of Motor Vehicle Acts and Regulations in the different provinces.

vehicles. Every car must have a lock or other device to prevent it from being operated when left unattended. The speed limits are: in cities, towns and villages 15 miles an hour; on approaches to steep descents, bridges, or highway crossings 10 miles an hour; on roads outside cities or incorporated towns on which the driver has not a clear view for at least one hundred yards free from turns and intersections 15 miles an hour; and in all other places a speed reasonable and proper.

Nova Scotia.—The Motor Vehicle Act requires cars to be registered by the Motor Vehicle Branch, Department of Highways, which issues permits renewable annually on Mar. 31. Cars belonging to persons residing outside of Nova Scotia need not be registered, if registered where the owners reside and operated for private use. This privilege is given for a period of not more than three months in each year. If owners come into the province to reside permanently or to carry on business they must register. Every person who operates a motor vehicle must be licensed as a chauffeur, an operator, or a beginner. Motor vehicles must be equipped as provided in the Uniform Vehicle Code. The following are the permissible rates of speed: 15 miles an hour at railway crossings, schools, intersections with obstructed vision, curves with obstructed vision, danger zones; 20 miles an hour in a business district or residential district; 35 miles an hour under all other conditions. For commercial vehicles having a gross weight in excess of 4000 lbs., 25 miles an hour is the maximum speed.

New Brunswick.—Under the Motor Vehicle Law, 1926, the registering and licensing authority is the Motor Vehicle Branch, Department of Public Works. Cars must be registered when new and, besides the registration fee, an annual fee is payable on Jan. 1. Non-residents may not operate cars registered in another province during more than 90 days in any year without registering in New Brunswick. The speed limits are: in places which are closely built up, or in any city, town or village, 15 miles an hour; outside of any city, town or village where the road cannot be seen clearly for 200 yards, 20 miles an hour. Driving recklessly, or at a speed greater than 40 miles an hour on a highway, may result in a fine, imprisonment or suspension of licence. All vehicles keep to the right.

Quebec.—The law regarding motor vehicles is contained in the Quebec Revised Statutes, 1925, c. 35. Cars must be registered in the office of the Provincial Treasurer and re-registered annually on Mar. 1. Certain government and municipal cars and farm tractors are given free registration, while exemptions are made in the case of pleasure cars registered in other provinces and certain commercial vehicles but only in cases specified in Article 10 of the Act. Cars, when left unattended, must be locked in such a way as to prevent their use, and must have mufflers. The speed limits are: in cities, towns and villages, 20 miles an hour; on highways where the land is closely built up, 20 miles an hour; and in open country, 30 miles an hour. Motor vehicles must be stopped before driving over a railway crossing. Motors must stop for street cars which are standing to take on or discharge passengers, and must reduce the speed to 16 miles an hour when meeting another vehicle. These rates have reference to pleasure cars only. In the case of a commercial vehicle having non-pneumatic tires, a speed of 8 miles an hour when loaded and 11 miles an hour when unloaded is allowed. When equipped with pneumatic tires the corresponding rates are 12 and 15 miles an hour. Motor buses are allowed a speed of 30 miles an hour in open country.

Ontario.—In this province the Highway Traffic Act, under the administration of the Motor Vehicles Branch of the Department of Highways, regulates the opera-

tion of motor vehicles on the highways. Motor vehicle permits and drivers' licences are issued for the calendar year. Vehicles owned by residents of other provinces who do not reside or carry on business in Ontario for more than three consecutive months in each year may be operated in Ontario without Ontario registration plates. Passenger cars registered in the United States may be operated in Ontario without Ontario plates for thirty days in any one year. The speed limit in cities, towns and villages is 20 miles an hour; in open country, 35 miles an hour. At intersections, level railway crossings and where the view of the driver is obscured the speed allowed is 10 miles within and 15 miles outside of cities, towns and villages. Vehicles must not pass street cars which are stationary for the purpose of taking on or discharging passengers. At intersections the motor vehicle on the right has the right of way and before entering or crossing a through highway a vehicle must be brought to a full stop. A motor vehicle must be equipped with non-glare headlights, muffler, windshield wiper and mirror. Under Part XIII of the Act a person convicted of certain serious offences in connection with the operation of motor vehicles or a person against whom an unsatisfied judgment is outstanding is required to file proof of his financial responsibility. All accidents resulting in personal injuries or property damage apparently exceeding \$50 must be reported to the nearest provincial or municipal police officer.

Manitoba.—Under the Highway Traffic Act, 1930, cars must be registered in the office of the Municipal-Commissioner, and registration is renewable annually on Jan. 1. All drivers must be licensed. No person not a resident of the province shall operate without a licence for a period exceeding 30 days of the date of entry, unless the province or State in which he resides gives reciprocity in this respect. Penalties for driving a car while intoxicated include imprisonment, suspension of driver's licence and impounding of the car. No person shall operate a motor vehicle upon any highway or street at a greater speed than is reasonable and proper, having regard to the condition of the highway and the traffic. The onus of proof is on the motorist. No ray of light from any headlight shall be thrown in a horizontal direction at a greater height from the ground than 42 inches in front of the motor vehicle when travelling on the highways. The use of searchlights and glare headlights is absolutely forbidden on the highway. Number plates must be carried on the front and rear of the vehicles so as to be plainly visible. All vehicles must move to the right-hand side of the road and give sufficient room for passing when overtaken by the driver of an automobile or other vehicle and given a signal to pass. In the event of an accident the driver involved must render every help possible, and give his name and address to the police officer or, if no officer is at hand, report to the nearest police station or officer. Failure to comply may involve a fine of \$50 or 30 days' imprisonment.

Saskatchewan.—The licensing authority under the Vehicles Act is the Minister of Highways. Licences expire annually on Dec. 31. Licence fees for private vehicles are computed on the wheel base, the minimum fee being \$10, the maximum \$30.

The fee for motor trucks is computed on the size of rear tires and the gross weight. Trucks are divided into five classes for licensing purposes and the fees vary accordingly. The owner of a truck in addition to being supplied with two licence plates to be attached one on the front and one on the rear of the truck also receives two weight plates, to be attached one on each side of the vehicle, embossed with the gross weight in pounds for which the licence fee has been paid.

The fee for a livery or chauffeur's licence is \$8 more than the fee paid for a private or truck licence. Every applicant for a livery or chauffeur's licence must satisfy the Minister that he is a fit and proper person capable of operating a motor vehicle, and all applicants resident in a city or town are required to obtain endorsement of their application by the Chief Constable, the Secretary-Treasurer being responsible in the smaller urban and rural municipalities. All motor vehicles except motor cycles must expose two number plates. The registration fee for a motor cycle is \$6.

Classes known as "freight vehicles" and "public vehicles", in addition to being registered under the Vehicles Act, must also secure licences under the Public Vehicles Act, 1928. A non-resident may use his motor vehicle within the province for a period of, or for periods together amounting to, not more than three months in any year, but the expression "non-resident" does not include the owner of a motor truck used for any portion of the year in connection with construction work of any kind. Cities, towns and villages have authority to regulate speed limits within their respective boundaries. A loaded truck shall not be driven at a greater speed than 25 miles per hour, and no unloaded truck shall be driven at a greater speed than 35 miles per hour, while no motor vehicle may be driven at a greater speed than 35 miles per hour when passing any motor or other vehicle going in the opposite direction. Otherwise speed, speaking generally, is governed by the amount of traffic, nature, condition and use of the highways. No motor vehicle and its load shall have a greater width than 96 inches.

Motor vehicles must stop for street cars which are taking on or discharging passengers. Upon meeting another vehicle at an intersection of highways, the vehicle to the right hand has the right of way. Should a driver on leaving a stopping place in a city or town desire to turn, he may do so only at an intersection of the public highway.

Alberta.—The law relating to motor vehicles is contained in the Vehicles and Highway Traffic Act, 1924. The speed limits are: 20 miles an hour in cities, towns and villages; 10 miles an hour at street crossings and bridges; and 30 miles an hour outside cities, towns and villages. A motor car may not pass a street car which has stopped for passengers to get on or off. A resident of any other province of Canada, entering Alberta for pleasure touring for a period not greater than six months, is required to have complied with the motor-vehicle laws of his own province, and on entering Alberta to register with the Provincial Police. Residents of the United States entering Alberta for touring purposes may carry with them their customs certificates in lieu of registration. The Provincial Secretary may revoke or suspend the licence of any chauffeur convicted under the provisions of the Liquor Act of selling or having for sale intoxicating liquor. Provision is made for the impounding of cars by the authorities where the owners or drivers are convicted of driving cars while intoxicated or convicted under other sections of the Act relating to speeding and juvenile driving. There is provision against the carrying of loaded weapons in an automobile—a preventive measure against accidents during hunting trips.

British Columbia.—Under the Motor Vehicle Act and amending Acts, all motor vehicles are to be registered with the Commissioner of Provincial Police. Trailers must also be licensed. Motor vehicles registered outside of the province may be used for touring purposes for a period up to six months providing

that they apply for and obtain within 24 hours after commencing to operate in the province a non-resident touring permit (where the owner of a motor vehicle brought into the province for touring purposes is a resident of the United States, it is not necessary that he obtain a touring permit, provided that he carries the customs permit).

Non-resident chauffeurs who have complied with the laws of their place of residence are exempt from taking out chauffeurs' licences while driving foreign-registered motor vehicles for which a touring permit has been issued and is in effect and, in the case of United States owned cars, for which a permit is not necessary, while carrying the customs permit.

Motor vehicles are to be driven in a careful and prudent manner at all times. The onus is on the driver for driving to the common danger if driving at a greater speed than 20 miles per hour in any city, town or village; or 30 miles per hour outside cities, towns or villages; or greater than the maximum rate of speed stated on signs erected on certain portions of the highway. A motor vehicle may not pass a standing street car at more than 5 miles per hour, if such street car is not taking or discharging passengers, and must stop at least 10 feet from and in the rear of the passenger exit if such street car is taking on or discharging passengers (in cities where safety zones are provided, motor vehicles are allowed to pass between safety zone and curb at a rate as set by by-law). A motor vehicle must not exceed a speed of 15 miles per hour when passing schoolhouses between the hours of 8 a.m. and 5 p.m. of any day on which school is regularly held, or public playgrounds for children between dawn and dusk. Accidents in which death or personal injury has occurred or in which loss or injury apparently exceeding \$25 is sustained must be reported. All chiefs of police to whom such accident reports are furnished must forward copies within 24 hours to the Commissioner of Provincial Police.

No person shall ride as a passenger on a motor cycle in front of the person driving or operating the motor cycle. Notices of transfer must be registered in every case where there is a change in the interest or title of a motor vehicle. Provision is made for the surrender of drivers' licences upon conviction for an infraction of the Act or Regulations or of Section 285 of the Criminal Code; upon arrest or indictment for manslaughter a driver's licence is suspended.

Yukon Territory.—The Motor Vehicle Ordinance, No. 14, 1914, with amendments, requires all cars to be registered in the office of the Territorial Secretary, who issues certificates renewable annually on April 1. A non-resident may operate an unregistered motor for not more than 90 days. In cities, towns and villages the speed limit is 15 miles an hour, or 10 miles an hour at street intersections.

PART VII.—AIR NAVIGATION.¹

During 1931 civil aviation was well maintained. The Dominion and Provincial Governments extended the range and variety of their operations and commercial operating companies increased in number. Aircraft are a ready means of obtaining accurate information of conditions in remote and unsettled parts, and provide easy access to them. Their use in developing and conserving the natural resources has increased every year. Air mail and air transport lines are in operation in many parts of the Dominion.

¹ Revised under the direction of J. A. Wilson, Esq., Controller of Civil Aviation, by A. E. Heatley, Department of National Defence.

Civil Aviation in Canada is divided into two classes: (1) civil operations, carried out for other Government Departments under the Directorate of Civil Government Air Operations; (2) commercial aviation, under the regulation of the Controller of Civil Aviation. Both are under the Department of National Defence.

Directorate of Civil Government Air Operations.—This branch carried out flying on forest fire patrols, fire suppression, oblique and vertical photography for surveys, transportation, etc., for different Government Departments in various parts of the country. The established bases were Winnipeg, Manitoba, and Ottawa, Ont.

Provincial Operations.—The Ontario Provincial Air Service owns and operates 27 aircraft on forest fire protection, transportation, air photography and sketching in northern Ontario. Operations covered an area of about 800 miles from east to west, and 400 miles from north to south. A total of 10,984 hours was flown during 1931. British Columbia, Manitoba and Quebec contracted with commercial aircraft operators for flying required.

Commercial Aviation.—During 1931 there were 110 commercial aircraft operators in Canada. Their activities included forest fire patrols, timber cruising, air photography, transportation of passengers, express and mail, instruction, advertising, short passenger flights, etc., in various parts of the country.

Air Mail Service.—Regular air-mail services were established in December, 1927. During 1931 commercial firms operated the following air-mail routes under Post Office Department contracts: *Winter Services.*—Leamington-Pelee Island; Quebec-Seven Islands-Anticosti; Moncton-Magdalen Islands; Moncton-Charlottetown. *Summer Services.*—Rimouski-Montreal-Ottawa; Lac-du-Bonnet-Bissett-Wadhope. *Yearly Services.*—Montreal-Toronto-Detroit; Montreal-Albany; Sioux Lookout-Red Lake area; Toronto-Buffalo; Amos-Chibougamau; Amos-Siscoe; McMurray-Aklavik; Winnipeg-Edmonton; Winnipeg-Pembina; Montreal-Saint John; Montreal-Quebec; Peace River-North Vermilion. Mail to the extent of 483,490 lb., was carried under contract, without loss or damage, during 1931.

Owing to general economic conditions, the following services have been withdrawn until further notice: Jan. 31, Montreal-Quebec; May 9, Lac-du-Bonnet-Bissett-Wadhope; June 1, Montreal-Saint John-Moncton, Toronto-Buffalo, Montreal-Ottawa.

Encouragement of Aviation.—To encourage a more widespread interest and knowledge of aviation, the Department of National Defence, since 1928, has assisted by issuing two light aeroplanes to each of the twenty-five flying clubs in the following localities: Halifax, Cape Breton, Saint John, Granby, Montreal, McGill University, Brant and Norfolk, Fort William, Hamilton, Kingston, London, Ottawa, St. Catharines, Toronto, Border Cities, Kitchener, Brandon, Winnipeg, Moose Jaw, Regina, Saskatoon, Calgary, Edmonton, Vancouver, Victoria. Granby and Victoria have since withdrawn from the scheme. The McGill University and Kitchener-Waterloo clubs received the grant during 1931. The total membership at present is 2,973. A total of 11,958 hours was flown. 110 members obtained private pilots' licences, and 47 members obtained commercial pilots' licences during 1931. Many aerodromes have been established through this movement.

A large air terminal has been built at St. Hubert, seven miles south of Montreal. A mooring tower for airships and an aerodrome, have been constructed here and immigration, customs and postal facilities are available. A terminal aerodrome has also been constructed at Rimouski for the despatch and reception of transatlantic mails by air.

Manufacture of Aircraft.—An aircraft industry, to construct in Canada the aircraft and equipment required for aviation, is essential to the sound development of flying. Canadian Vickers, the pioneer firm in Canada, maintain their own designing department and have produced several original types especially suited for operation in Canada. The increased interest and the growing operations of the Dominion and Provincial Governments and commercial operators led to the establishment of increased manufacturing facilities. Several aircraft constructors from England and the United States have formed branches in Canada for the assembly and service of their products. The De Havilland Aircraft of Canada, Ltd., established a plant in Toronto for the service and assembly of their aircraft chiefly of the "Moth" light-aeroplane type. The Curtiss Reid Aircraft Co., established a factory in Cartierville, Que., the Fairchild Aircraft Ltd., at Longueuil, Que., the Boeing Aircraft of Canada, Ltd., at Vancouver; Ottawa Car Manufacturing Co., at Ottawa, for manufacture of A. V. Roe aircraft. Aero engine factories are established for construction or assembly and service of their products as follows: Armstrong-Siddeley Motors, Ltd., at Ottawa; Aero Engines of Canada, Ltd., at Montreal, for "Wright" and "Bristol" engines; Canadian Pratt and Whitney Aircraft Co., Ltd., at Longueuil, Que.

38.—Statistical Summary of Civil Aviation in Canada, 1926-31.

Item.	1926.	1927.	1928.	1929.	1930.	1931.
General Analysis.						
Firms manufacturing aircraft.....	2	2	4	6	7	7
Firms chiefly operating aircraft.....	14	20	53	81	100	100
Firms using aircraft as auxiliary service.....	2	1	1	4	4	4
Aircraft flights made.....	4,755	16,748	75,285	144,143	156,174	144,080
Aircraft hours flown.....	5,860	12,070	43,071	79,786	92,993	73,645
Approximate aeroplane mileage.....	30,290	209,583	1,557,917	4,083,321	5,222,635	5,280,958
Approximate float seaplane mileage.....	356,481	247,238	797,998	1,768,738	2,024,219	1,553,721
Approximate boat seaplane mileage.....	—	372,189	352,029	426,064	286,628	180,620
Approximate amphibian mileage.....	6,332	—	20,341	5,956	13,938	30,950
Total aircraft mileage.....	393,103	829,010	2,728,414	6,284,079	7,547,420	7,046,276
Average flight duration (minutes).....	74	43	32	33	36	30
Pilots carried.....	4,755	16,748	75,285	144,143	156,574	144,080
Passengers and crew carried.....	6,436	18,932	74,669	124,751	124,875	100,128
Total personnel carried.....	11,191	35,680	149,954	268,894	281,449	244,208
Pilots carried one mile (pilot-miles).....	393,103	829,010	2,728,414	6,284,079	7,547,420	7,046,276
Passengers and crew carried 1 mile (passenger-miles).....	631,715	1,424,031	2,883,782	6,114,997	5,408,676	4,073,552
Total personnel carried 1 mile (personnel-miles).....	1,024,818	2,253,041	5,612,196	12,399,076	12,956,096	11,119,828
Total freight or express carried (lb.).....	724,721	1,098,346	2,404,682	3,903,908	1,759,259	2,372,467
Total mail carried (lb.).....	3,960	14,684	316,631	430,636	474,199	470,461
Licensed Civil Air Harbours.						
Total air harbours (all types).....	34	36	44	77	77	78
Licensed Civil Aircraft.¹						
Aeroplanes (single-engined).....	15	30	124	281	316	286
Aeroplanes (triple-engined).....	—	—	3	2	2	1
Float seaplanes (single-engined).....	—	16	100	119	183	180
Boat seaplanes (single-engined).....	28	21	33	37	21	23
Amphibians (single-engined).....	1	—	4	6	5	5
Total aircraft (all types).....	44	67	264	445	527	495
Licensed Civil Air Personnel.						
Pilots only (flying machines).....	20	43	258	349	408	465
Pilot-Air Engineers.....	18	29	70	96	131	134
Air Engineers only (flying machines).....	65	74	130	212	241	236
Total licensed personnel.....	103	148	458	657	780	835
Unlicensed air mechanics employed.....	43	59	8	150	164	131

¹These figures show duplication, since in several instances the aircraft are used both as landplanes and seaplanes.

PART VIII.—CANALS.¹

Before the period of extensive railway construction which commenced for Canada in the 1850's, the water routes, more especially the St. Lawrence, the Great Lakes and the Ottawa, were the chief avenues of transportation. These routes were interrupted at certain points, necessitating portages. The canals of Canada were constructed to eliminate the toil of unloading, transporting and reloading at the portages.

The earliest mention of canals in Canada is in connection with the Lachine canal, begun by early French settlers in 1700, but only after the conquest of Canada by the British were improvements of the main water routes made, and in the early part of the 19th century increased internal and foreign trade and the introduction of steam navigation resulted in more attention being given to this work. Although the canals were constructed primarily for military purposes they soon became essential to the commercial life of the country.

Section 1.—Canal Systems.

There are in Canada seven canal systems under the control of the Dominion Government in connection with navigable lakes and rivers. They consist of the canals (1) between Port Arthur or Fort William and Montreal; (2) from Montreal to the International Boundary near lake Champlain; (3) from Montreal to Ottawa; (4) from Ottawa to Kingston and Perth; (5) from Trenton, lake Ontario, to lake Huron (not completed); (6) from the Atlantic ocean to Bras d'Or lakes, Cape Breton; and (7) from Winnipeg to lake Winnipeg. By means of these canals a total waterway of 1,846 miles has been opened to navigation, the actual mileage of canals being 509.40.

A detailed description of the individual canals was given on pp. 626-629 of the 1926 Year Book. Summary statistics of their length and lock dimensions are given in Table 39.

¹Revised by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics. This Branch publishes an annual report on "Canal Statistics".

39.—Canals of Canada, Length and Lock Dimensions, 1931.

Name.	Location.	Length in Miles.	Locks.			
			No.	Minimum Dimensions.		
				Length.	Width.	Depth.
St. Lawrence—				ft.	ft.	ft.
Lachine.....	Montreal to Lachine.....	8.74	5	270	45	14 ¹
Soulages.....	Cascades Point to Coteau Landing...	14.67	5	280	45	15 ¹
Cornwall.....	Cornwall to Dickinson's Landing...	11.00	6	270	43.67	14 ¹
Farran's.....	Farran's Point rapids.....	1.28	1	800	50	16 ¹
Rapide Plat.....	Rapide Plat to Morrisburg.....	3.89	2	270	45	14 ¹
Galops.....	Iroquois to Cardinal.....	7.36	3	270	45	14 ¹
Welland Ship.....	Port Weller, lake Ontario, to Port Colborne, lake Erie.....	27.60	8	859	80	30
Sault Ste. Marie.....	St. Mary's rapids, 47 miles west of lake Huron.....	1.38	1	900	60	18.25
Richelieu River—						
St. Ours Lock.....	St. Ours, Que.....	0.12	1	339	45	12 ¹
Chambly.....	Chambly to St. Johns, Que.....	11.76	9	120.5	23.25	6.5
Ottawa and Rideau Rivers—						
Ste. Anne Lock.....	Junction of St. Lawrence and Ottawa rivers.....	0.12	1	200	45	9
Carillon.....	Carillon rapids, Ottawa river.....	0.94	2	200	45	9
Grenville.....	Long Sault rapids, Ottawa river.....	5.94	5	200	45	9.5
Rideau.....	Ottawa to Kingston.....	126.25	47	134	33	5
	Rideau lake to Perth (Tay branch).....	7.25	2	134	33	5

¹Navigable depths are occasionally less at times of extremely low water.

39.—Canals of Canada, Length and Lock Dimensions, 1931—concluded.

Name.	Location.	Length in Miles.	Locks.			
			No.	Minimum Dimensions.		
				Length.	Width.	Depth.
				ft.	ft.	ft.
Miscellaneous—						
Trent.....	Trenton to Peterborough lock,					
	Peterborough.....	88.74	18	175	33	8.33
	Peterborough lock to Swift rapids..	135.71	24	134	33	6
	Swift rapids to Port Severn.....	16.00	(marine railway)			4
	Port Severn lock.....	—	1	100	25	6
	Sturgeon lake to Lindsay (Scugog					
	branch).....	8.35	1	142	33	6
	Lindsay to Port Perry (Scugog					
	branch).....	26.65	—	—	—	4.5
Murray.....	Isthmus of Murray—bay of Quinte..	5.15	—	—	—	11 ¹
St. Peters.....	St. Peters bay to Bras d'Or lakes,					
	Cape Breton, N.S.....	0.50	1	300	48	18
St. Andrews.....	Red river, 15 miles north of Winnipeg	—	1	215	45	17

¹With lake Ontario at elevation 244 feet above sea level.

Government Expenditures on Canals.—Tables 40 and 41 deal with the expenditure of the Dominion Government on the construction and maintenance of canals. The principal source of revenue is rentals for water for power purposes. All canals, it may be added, have since 1904 been free of tolls to vessels applying for the privilege of locking facilities. The total capital cost of Canadian canals since their construction was begun is set at \$236,216,461. The heavy capital expenditures in recent years are due to the construction of the Welland Ship Canal, on which \$122,385,409 had been spent up to Mar. 31, 1931. The lock gates were first opened on Apr. 21, 1930, and vessels drawing 18 feet of water were using the canal during the season of navigation of 1931.

40.—Expenditures and Revenues of Canals, Period 1868-1910, and fiscal year ended Mar. 31, 1911-31.

NOTE.—For the individual years 1868 to 1910, see Canada Year Book, 1916-17, page 462.

Fiscal Year.	Expenditure Chargeable—					Total Expendi- ture.	Total Revenue.
	to Capital.	to Income. ¹	to Revenue.				
			Staff and Repairs, Canals in general.	Staff.	Repairs.		
	\$	\$	\$	\$	\$	\$	\$
Before Confed- eration.....	21,152,933	98,378	—	—	—	21,251,311	—
1868-1910.....	76,388,584	6,465,248	1,594,241	11,695,311	9,488,903	105,632,287	14,156,391
1911.....	2,349,474	440,270	103,398	511,306	471,530	3,875,978	221,138
1912.....	2,560,939	442,012	109,651	585,900	555,710	4,254,212	263,717
1913.....	2,259,257	331,987	121,371	605,248	535,136	3,852,999	307,568
1914.....	2,829,661	389,285	147,729	642,845	574,039	4,583,559	380,188
1915.....	5,490,796	444,730	140,236	675,771	562,599	7,314,132	427,763
1916.....	6,142,149	397,665	139,952	697,532	529,565	7,906,863	446,722
1917.....	4,304,589	399,414	137,907	700,022	486,168	6,028,100	461,423
1918.....	1,781,957	111,553	149,859	743,857	540,331	3,327,557	414,868
1919.....	2,211,935	164,046	156,558	733,091	698,873	3,964,508	387,655
1920.....	4,579,565	798,113	157,886	745,986	713,335	6,994,885	441,926
1921.....	5,449,962	1,193,143	192,875	815,979	920,993	8,572,952	365,941

¹The income account is of expenditure on buildings and permanent improvements; the revenue account is of expenditure on maintenance only.

40.—Expenditures and Revenues of Canals, fiscal years ended June 30, 1868-1906, and Mar. 31, 1907-31—concluded.

NOTE.—For the individual years 1868 to 1910, see Canada Year Book, 1916-17, p. 462.

Fiscal Year.	Expenditure Chargeable—					Total Expendi- ture.	Total Revenue.
	to Capital.	to Income. ¹	to Revenue.				
			Staff and Repairs, Canals in general.	Staff.	Repairs.		
	\$	\$	\$	\$	\$	\$	\$
1922.....	4,482,639	836,810	209,201	983,042	1,105,054	7,616,746	804,514
1923.....	4,995,184	564,242	204,536	924,217	859,839	7,548,018	742,704
1924.....	6,747,395	479,900	204,653	980,094	942,056	9,354,098	897,411
1925.....	10,619,903	458,791	187,579	959,516	853,076	13,078,865	907,453
1926.....	12,024,461	501,449	182,376	1,046,568	873,682	14,628,536	920,301
1927.....	13,845,684	451,880	153,776	1,129,040	858,473	16,438,853	961,397
1928.....	13,762,905	418,719	175,818	1,212,721	1,150,241	16,720,404	1,355,441
1929.....	13,164,582	300,292	163,804	1,219,135	1,027,685	15,875,498	1,230,533
1930.....	9,324,221	348,517	200,721	1,157,353	1,105,386	12,136,198	1,043,611
1931.....	9,747,686	786,941	180,106	1,495,796	1,237,141	13,447,670	1,026,677
Totals.....	236,216,461	16,823,385	5,014,233	30,260,330	26,089,820	314,404,229	28,166,200

¹The income account is of expenditure on buildings and permanent improvements; the revenue account is of expenditure on maintenance only.

41.—Capital Expenditures for Construction and Enlargement of Canals to Mar. 31 1931.

Canal.	Expenditure, Fiscal Year 1931.	Tot. 1 Expenditure.	Canal.	Expenditure, Fiscal Year 1931.	Total Expenditure.
	\$	\$		\$	\$
Beaubarnois.....	-	1,636,029	River Reaches.....	-	483,830
Carillon and Grenville ¹	-	4,191,757	Galops Channel.....	-	1,039,894
Chambly.....	-	780,996	St. Lawrence Ship... ..	-	133,862
Cornwall.....	-	7,245,804	St. Ours Lock.....	258,333	394,739
Culbute Lock and Dam.....	-	382,391	St. Peters.....	-	648,541
Lachine.....	-	14,007,978	Tay.....	-	489,599
Lake St. Francis.....	-	75,907	Trent.....	459	19,953,620
Lake St. Louis.....	-	298,176	Welland.....	(Cr.) 574	29,903,597
Murray.....	-	1,248,947	Welland Ship Canal... ..	9,493,568	122,885,407
Rideau.....	-	4,214,264	Williamsburg—		
Sault Ste. Marie.....	-	4,935,800	Farran's Point.....	-	877,097
Soulanges.....	(Cr.) 4,100	7,899,945	Galops.....	-	6,143,461
Ste. Anne Lock and Canal.....	-	1,320,216	Rapide Plat.....	-	2,159,887
St. Lawrence River—North Channel.....	-	1,995,143	Williamsburg.....	-	1,334,557
			Canals in general.....	-	34,925
			Totals.....	9,747,686	236,216,461

¹The records relating to cost of construction by the Imperial Government were destroyed in fire in 1852 and the statistics are not included in this table.

²Revised figures.

Section 2.—Canal Traffic.

Tables 42 to 47 deal with the traffic passing through Canadian canals in recent years up to and including 1931. In this latest year the total traffic amounted to 16,189,074 tons, which was an increase of 1,385,740 tons from the total for 1930.

The increase in total traffic through Canadian canals was all through the Sault Ste. Marie and Welland. Although the total traffic through the canals at Sault Ste. Marie decreased by over 28 million tons, the percentage and also total tonnage using the Canadian lock increased. By the summer of 1931 the new Welland Ship Canal was advanced sufficiently to allow vessels drawing up to 18 feet of water to pass through. Iron ore, which previously had been shipped by rail from Point Edward

to Hamilton, was shipped through from Lake Superior to Hamilton by water, and increased quantities of coal and other commodities were shipped through the canal.

For details of traffic handled through each canal, see the annual report on Canal Statistics published by the Bureau of Statistics.

42.—Total Traffic through Canadian Canals, navigation seasons 1900-31, by Nationality of Vessels and Origin of Freight.¹

NOTE.—For Canadian canal traffic from 1886 to 1899, see 1902 Year Book, p. 398.

Navigation Season.	Canadian Vessels.		United States Vessels.		Freight Carried.				
	No.	Registered Tonnage.	No.	Registered Tonnage.	Originating in Canada.		Originating in United States.		Total.
					Tons.	P.C. of Total.	Tons.	P.C. of Total.	
1900..	21,755	4,129,250	5,502	2,408,985	—	—	—	—	5,013,693
1901..	20,860	3,980,264	5,634	2,482,274	—	—	—	—	5,665,259
1902..	22,198	4,485,695	6,433	4,086,439	—	—	—	—	7,513,197
1903..	23,767	5,212,832	6,695	4,236,475	—	—	—	—	9,213,817
1904..	21,851	4,772,100	6,253	3,655,905	—	—	—	—	8,256,236
1905..	23,726	5,191,191	7,085	5,096,241	—	—	—	—	9,371,744
1906..	25,498	5,526,321	7,319	5,685,315	—	—	—	—	10,523,185
1907..	28,833	6,328,911	9,328	11,604,834	—	—	—	—	20,543,639
1908..	29,040	6,780,789	7,489	8,521,139	5,012,147	28.6	12,490,673	71.3	17,502,820
1909..	22,507	7,811,578	9,996	16,459,322	7,378,057	21.8	26,342,691	78.2	33,720,748
1910..	25,337	8,931,790	11,462	21,777,297	7,883,614	18.8	35,106,994	81.7	42,990,608
1911..	25,585	9,172,192	10,370	18,231,622	7,792,907	20.5	30,237,446	79.5	38,030,353
1912..	27,371	10,237,335	11,785	24,636,190	9,376,529	19.7	38,210,716	80.3	47,587,245
1913..	28,654	12,078,041	10,739	24,238,788	11,130,875	21.3	40,923,038	78.7	52,053,913
1914..	26,125	12,050,856	7,742	15,636,414	9,382,206	25.3	27,641,031	74.7	37,023,237 ²
1915..	21,575	9,398,207	6,415	7,385,101	6,789,423	44.7	8,409,380	55.3	15,198,803
1916..	23,002	9,839,029	6,800	10,660,839	7,486,962	31.7	16,096,529	68.3	23,583,491
1917..	21,588	9,831,694	6,594	10,259,772	5,964,369	26.8	16,274,566	73.2	22,238,935
1918..	18,909	7,800,972	6,791	9,616,200	3,369,477	17.8	15,514,142	82.2	18,883,619
1919..	20,682	8,735,973	4,092	5,259,173	4,865,831	48.7	5,129,435	51.3	9,995,266 ³
1920..	23,038	8,521,643	3,826	3,838,890	4,094,044	46.9	4,641,339	53.1	8,735,383
1921..	25,720	10,079,388	2,969	2,330,178	4,562,028	48.5	4,844,993	51.5	9,407,021
1922..	26,217	11,059,261	3,735	3,165,054	6,273,227	62.1	3,752,828	37.9	10,026,055
1923..	27,112	13,013,970	3,399	3,325,809	7,637,485	68.2	3,561,949	31.8	11,199,434
1924..	27,467	13,988,909	3,233	2,821,177	8,857,177	68.8	4,011,920	31.2	12,869,097
1925..	28,361	14,964,785	3,587	3,824,924	9,570,311	67.7	4,560,356	32.3	14,130,667
1926..	27,965	14,542,485	3,543	3,144,866	9,656,190	71.7	3,821,473	28.3	13,477,663
1927..	36,162	17,472,601	4,013	3,364,461	11,863,931	67.8	5,624,380	32.2	17,488,311
1928..	30,575	17,435,176	3,973	3,270,591	13,882,592	74.2	4,387,849	25.8	18,720,441
1929..	25,917	13,741,071	2,400	2,323,351	9,689,718	70.7	4,009,929	29.3	13,699,647
1930..	24,100	14,489,045	2,063	1,684,576	10,955,113	74.0	3,848,221	26.0	14,803,334
1931..	25,830	15,869,553	1,821	1,749,231	11,433,737	70.6	4,755,337	29.4	16,189,074

¹Includes duplication where cargoes use two or more canals.

²Third lock of United States Sault Ste. Marie canal opened Oct. 21, 1914.

³Fourth lock of United States Sault Ste. Marie canal opened Sept. 18, 1919.

43.—Distribution of Total Freight Traffic on Canals, by Months, navigation seasons 1925-31.¹

Month.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	tons.	tons.	tons.	tons.	tons.	tons.	tons.
January.....	63	—	541	535	—	—	—
April.....	488,541	—	673,811	111,161	711,312	294,038	859,121
May.....	1,789,528	1,691,689	2,426,701	2,452,368	2,155,653	2,023,657	2,676,774
June.....	1,789,160	2,309,478	2,497,073	2,583,737	2,165,033	1,966,064	2,243,120
July.....	2,050,895	2,123,356	1,975,204	2,621,168	1,875,862	2,155,723	1,987,980
August.....	2,126,209	1,710,017	2,468,196	2,843,453	1,899,269	2,319,748	2,080,946
September.....	1,928,232	1,880,044	2,596,336	2,502,805	1,775,010	2,226,704	2,066,567
October.....	2,110,830	2,039,909	2,646,216	2,792,983	1,759,939	2,170,635	2,064,330
November.....	1,604,237	1,522,764	2,022,010	2,540,168	1,258,485	1,493,992	2,012,871
December.....	242,972	200,406	182,223	272,063	99,084	152,773	197,365
Totals.....	14,130,667	13,477,663	17,488,311	18,720,441	13,699,647	14,803,334	16,189,074

¹Includes duplications where cargoes use two or more canals.

44.—Tonnage of Canal Traffic, by Canals and Classes of Products, navigation seasons 1930 and 1931.¹

Year and Canal.	Agricultural Products.	Animal Products.	Manu- factures.	Forest Products.	Mine Products.	Total.
1930.	tons.	tons.	tons.	tons.	tons.	tons.
Sault Ste. Marie.....	1,064,501	638	439,478	57,034	129,820	1,691,471
Welland.....	3,095,486	—	1,104,644	367,214	1,520,566	6,087,910
St. Lawrence.....	2,878,692	8,598	974,336	726,711	1,590,686	6,179,023
Chambly.....	5,640	147	8,031	40,148	46,032	99,998
St. Peters.....	3,414	735	4,446	31,671	19,707	59,973
Murray.....	—	—	80	—	2,236	2,316
Ottawa.....	1,330	2,339	89,919	19,908	427,437	540,433
Rideau.....	608	1,128	25,090	832	552	28,110
Trent.....	70	10	1,193	19,762	2,750	23,785
St. Andrews.....	451	645	436	23,408	64,775	89,715
Totals¹.....	7,050,192	14,240	2,647,653	1,286,688	3,804,561	14,803,339
1931.						
Sault Ste. Marie.....	1,650,677	216	316,376	35,463	216,835	2,219,567
Welland.....	3,160,564	2,049	1,191,813	349,557	2,569,903	7,273,886
St. Lawrence.....	2,939,504	9,641	1,154,906	482,069	1,450,860	6,036,920
Chambly.....	2,353	63	600	12,542	34,778	50,336
St. Peters.....	3,020	1,157	3,111	20,933	19,307	47,528
Murray.....	—	—	5	6	878	889
Ottawa.....	690	1,539	82,430	18,399	389,861	492,319
Rideau.....	360	901	25,213	914	133	27,518
Trent.....	119	21	1,059	21,195	778	23,112
St. Andrews.....	20	243	795	7,813	7,405	16,276
Totals¹.....	7,757,307	15,830	2,776,308	948,891	4,690,738	16,189,074

¹Include duplications where cargoes use two or more canals.

45.—Principal Articles Carried through Canadian Canals, navigation seasons 1928-31.¹

Article.	1928.	1929.	1930.	1931.	Increase in 1931.	Decrease in 1931.
	tons.	tons.	tons.	tons.	tons.	tons.
Barley.....	1,306,354	845,346	421,940	1,098,192	676,252	—
Buckwheat.....	4	—	5	36	31	—
Corn.....	119,448	127,398	132,532	166,930	34,398	—
Oats.....	782,000	514,784	249,264	585,658	336,394	—
Rye.....	636,289	125,574	126,169	87,106	—	39,983
Flaxseed.....	57,616	51,860	61,453	64,211	2,758	—
Peas.....	30	37	1	5	4	—
Wheat.....	8,303,353	3,905,653	5,400,500	4,842,445	—	558,855
Flour.....	470,255	532,984	583,488	826,373	242,885	—
Hay.....	11,245	21,827	8,764	3,794	—	4
Other milled products.....	22,250	88,084	55,113	73,016	17,903	—
Fruits and vegetables.....	6,301	12,758	8,376	7,055	—	1
Potatoes.....	4,161	2,870	2,587	2,486	—	—
Live stock.....	520	606	424	390	—	—
Poultry, game and fish.....	2,484	3,115	1,863	1,637	—	—
Dressed meats.....	12	12	78	35	—	—
Other packing-house products.....	3,174	1,633	1,572	3,351	1,779	—
Hides and leather.....	110	624	303	—	—	—
Wool.....	445	506	316	10,417	114	—
All other animal products.....	9,952	11,327	9,684	—	—	—
Agricultural implements.....	33,994	14,408	3,932	1,743	—	2,189
Cement, bricks and lime.....	7,961	2,272	14,861	17,246	2,385	—
Household goods and furniture.....	1,593	585	844	503	—	—

¹Include duplications where cargoes use two or more canals.

45.—Principal Articles Carried through Canadian Canals, navigation seasons 1928-31—concluded.

Article.	1928.	1929.	1930.	1931.	Increase in 1931.	Decrease in 1931.
	tons.	tons.	tons.	tons.	tons.	tons.
Iron, pig and bloom.....	91,517	89,720	60,969	37,100	-	23,869
Iron and steel, all other.....	645,885	633,451	317,017	174,144	-	142,873
Gasolene.....	2	2	2	226,807	226,807	-
Petroleum and other oils.....	384,829	494,943	891,169	900,716	9,547	-
Sugar.....	263,101	323,126	306,183	403,351	97,168	-
Salt.....	19,588	21,560	23,232	35,196	11,964	-
Wines, liquors and beer.....	14,313	19,210	26,364	29,123	2,759	-
Merchandise not enumerated	1,050,967	1,020,118	1,003,082	950,379	-	52,703
Paper.....	2	2	2	200,472	200,472	-
Pulpwood.....	1,062,898	1,064,724	1,158,837	644,599	-	514,238
Sawn lumber.....	217,482	130,779	91,467	66,404	-	25,063
Squared timber.....	5,077	14,295	6,977	7,285	308	-
Shingles.....	693	1,218	3,904	2,117	-	1,787
Other woods.....	39,259	21,951	25,503	28,014	2,511	-
Hard coal.....	103,163	96,815	148,302	165,609	17,307	-
Soft coal.....	1,391,588	1,862,106	2,347,398	2,962,734	615,336	-
Coke.....	124,685	52,262	20,502	229,298	208,796	-
Copper ore.....	41,121	9,152	30,848	22,294	-	8,554
Iron ore.....	153,663	267,392	120,784	338,518	218,234	-
Other ore.....	44,348	36,120	86,072	32,372	-	53,700
Sand, etc.....	1,286,713	1,277,042	1,051,155	939,913	-	111,242
Totals¹	18,720,441	13,699,647	14,803,334	16,189,074	1,385,740	-

¹Include duplications where cargoes use two or more canals.

²Included with petroleum and other oils.

³Included with merchandise not enumerated.

46.—Canal Traffic, by Direction and Origin, navigation seasons 1930 and 1931.¹

Canal.	From Canadian to Canadian Ports.		From Canadian to United States Ports.		From United States to United States Ports.		From United States to Canadian Ports.	
	Up.	Down.	Up.	Down.	Up.	Down.	Up.	Down.
1930.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.
Sault Ste. Marie...	350,342	1,033,191	7,025	98,847	32,656	43,397	86,518	39,495
Welland.....	632,552	2,723,763	234,850	11,648	78,020	136,846	5,783	2,264,448
St. Lawrence.....	1,347,274	2,753,796	448,790	6,332	14,068	3,767	30,517	1,571,979
Chambly.....	16,158	3,007	44,224	-	-	-	-	36,609
St. Peters.....	8,550	41,817	-	9,606	-	-	-	-
Murray.....	35	80	-	-	-	-	-	2,201
Ottawa.....	89,264	442,052	-	3,605	-	-	6,012	-
Rideau.....	23,956	4,254	-	-	-	-	-	-
Trent.....	12,317	11,468	-	-	-	-	-	-
St. Andrews.....	85,416	4,299	-	-	-	-	-	-
Totals.....	2,565,864	7,019,727	734,889	130,038	125,244	184,010	128,830	3,914,732
1931.								
Sault Ste. Marie...	284,064	1,717,729	2,875	41,815	14,014	21,931	113,132	24,007
Welland.....	544,522	2,961,981	253,080	30,487	174,510	296,354	15,041	2,997,911
St. Lawrence.....	1,393,002	3,058,746	297,227	10,299	20,770	13,840	81,076	1,162,020
Chambly.....	21,310	811	13,311	-	-	-	-	14,904
St. Peters.....	6,214	36,929	-	4,317	-	-	68	-
Murray.....	16	-	-	-	-	11	-	862
Ottawa.....	75,981	411,075	-	1,084	-	-	4,779	-
Rideau.....	23,337	4,184	-	-	-	-	-	-
Trent.....	10,240	12,932	-	-	-	-	-	-
St. Andrews.....	15,079	1,197	-	-	-	-	-	-
Totals.....	2,373,765	8,205,584	566,493	88,002	209,294	332,136	214,096	4,199,704

¹Figures include duplications where cargoes use two or more canals.

46.—Canal Traffic, by Direction and Origin, navigation seasons 1930 and 1931,¹—concluded.

Canal.	Total Traffic by Direction.		Origin of Cargo.		Total Cargo.	Increase(+) or Decrease (—) on Previous Year.
	Up..	Down.	Canada.	United States.		
1930.	tons.	tons.	tons.	tons.	tons.	tons.
Sault Ste. Marie.....	476,541	1,214,930	1,504,707	186,764	1,691,471	— 682,648
Welland.....	951,205	5,136,705	3,917,884	2,170,026	6,087,910	+ 1,318,044
St. Lawrence.....	1,841,149	4,337,874	4,733,902	1,445,121	6,179,023	+ 460,322
Chambly.....	60,382	39,616	62,144	37,854	99,998	+ 23,079
St. Peters.....	8,550	51,423	59,973	—	59,973	+ 10,333
Murray.....	35	2,281	115	2,201	2,316	+ 2,549
Ottawa.....	95,276	445,657	534,921	6,012	540,933	+ 3,866
Rideau.....	23,956	4,254	28,210	—	28,210	+ 17,641
Trent.....	12,317	11,468	23,785	—	23,785	+ 5,442
St. Andrews.....	85,416	4,299	89,715	—	89,715	+ 31,634
Totals.....	3,554,827	11,248,507	10,955,356	3,847,978	14,803,334	+ 1,103,677
1931.						
Sault Ste. Marie.....	414,085	1,805,482	2,057,552	162,015	2,219,567	+ 528,006
Welland.....	987,153	6,286,733	3,947,133	3,326,753	7,273,886	+ 1,185,976
St. Lawrence.....	1,792,075	4,244,905	4,793,891	1,243,089	6,036,980	+ 142,019
Chambly.....	34,621	15,715	35,432	14,904	50,336	+ 49,669
St. Peters.....	6,282	41,246	47,460	68	47,528	+ 12,449
Murray.....	16	873	16	873	889	+ 1,472
Ottawa.....	80,760	412,159	485,284	7,635	492,919	+ 48,014
Rideau.....	23,337	4,184	27,521	—	27,521	+ 688
Trent.....	10,240	12,932	23,172	—	23,172	+ 613
St. Andrews.....	15,079	1,197	16,276	—	16,276	+ 73,433
Totals.....	3,363,648	12,825,426	11,433,737	4,755,337	16,189,074	+ 1,385,740

¹Include duplications where cargoes use two or more canals.

47.—Traffic through individual Canadian Canals, navigation seasons 1927-31.

NOTE.—For corresponding figures for 1920-24, see p. 636 of the 1925 Year Book and for 1925-26, p. 668 of the 1930 Year Book.

Canal and Year.	Canadian Vessels.		United States Vessels.		Total Passengers.	Total Freight Carried.
	No.	Registered Tonnage.	No.	Registered Tonnage.		
		tons		tons.		tons.
Sault Ste. Marie—						
1927.....	2,818	3,269,942	421	1,214,782	34,483	1,470,556
1928.....	2,940	3,415,478	418	1,171,011	34,289	2,007,117
1929.....	3,145	3,401,058	440	1,475,774	33,357	2,374,111
1930.....	2,595	2,622,448	362	859,128	27,831	1,691,443
1931.....	2,864	3,195,482	230	611,128	20,626	2,219,567
Welland—						
1927.....	6,504	5,811,180	1,150	1,039,417	—	7,247,441
1928.....	5,365	5,598,493	1,222	1,051,464	—	7,439,957
1929.....	3,842	3,835,740	551	450,910	—	4,769,881
1930.....	4,623	5,028,583	629	545,984	1,580	6,087,910
1931.....	4,942	6,076,320	868	942,973	6,887	7,273,886
St. Lawrence—						
1927.....	13,860	7,370,693	1,110	960,201	87,567	7,912,911
1928.....	13,152	7,416,426	1,258	922,377	85,926	8,411,551
1929.....	10,368	5,470,265	513	307,175	71,405	5,718,001
1930.....	9,177	5,759,178	342	211,882	51,848	6,179,001
1931.....	10,257	5,685,318	265	167,981	43,866	6,036,911
Chambly—						
1927.....	541	67,402	870	107,370	609	204,511
1928.....	414	52,679	750	93,983	446	179,111
1929.....	397	55,559	569	67,869	318	123,411
1930.....	307	26,497	472	55,492	164	99,111
1931.....	327	23,311	194	16,259	158	50,111

47.—Traffic through individual Canadian Canals, navigation seasons 1927-31—concluded.

Canal and Year.	Canadian Vessels.		United States Vessels.		Total Passengers.	Total Freight Carried.
	No.	Registered Tonnage.	No.	Registered Tonnage.		
		tons.		tons.		tons.
St. Peters—						
1927.....	903	58,840	19	5,345	302	46,306
1928.....	964	65,306	20	6,287	174	52,848
1929.....	909	69,689	27	4,749	370	49,650
1930.....	845	76,861	20	2,923	194	59,973
1931.....	871	69,849	22	4,270	126	47,528
Murray—						
1927.....	440	104,893	141	10,724	8,339	712
1928.....	290	46,081	86	1,282	2,325	1,385
1929.....	301	37,316	148	2,747	—	4,875
1930.....	279	66,128	164	3,572	—	2,316
1931.....	302	70,988	180	3,879	60	889
Ottawa—						
1927.....	3,017	553,140	193	23,055	27,565	455,759
1928.....	3,694	606,187	178	23,014	24,116	487,786
1929.....	3,509	652,730	106	12,209	22,995	537,037
1930.....	3,209	687,987	49	5,013	22,982	540,933
1931.....	3,111	618,807	24	1,984	24,648	492,919
Rideau—						
1927.....	1,139	84,081	30	1,525	3,803	57,951
1928.....	936	78,368	19	685	1,441	51,999
1929.....	744	64,259	17	602	1,115	45,901
1930.....	506	51,104	11	348	785	28,210
1931.....	505	45,843	6	130	793	27,521
Trent—						
1927.....	2,577	82,411	79	2,042	47,954	27,754
1928.....	2,456	81,899	22	488	39,291	36,311
1929.....	2,024	64,588	29	1,315	33,908	17,843
1930.....	1,712	54,614	14	234	26,989	23,785
1931.....	2,374	53,160	32	627	29,267	23,172
St. Andrews—						
1927.....	350	70,019	—	—	262	64,331
1928.....	364	74,259	—	—	138	51,948
1929.....	678	89,867	—	—	1,084	58,628
1930.....	847	115,645	—	—	893	89,715
1931.....	277	30,475	—	—	202	16,276
Summary¹—						
1927.....	32,149	17,472,601	4,013	3,364,461	210,884	17,488,311
1928.....	30,575	17,435,176	3,973	3,270,591	188,046	18,720,441
1929.....	25,917	13,741,071	2,400	2,323,350	164,552	13,699,647
1930.....	24,100	14,489,045	2,063	1,684,576	133,266	14,803,334
1931.....	25,830	15,869,553	1,821	1,749,231	126,633	16,189,074

¹Figures include duplications where vessels use two or more canals.

The Panama Canal.¹—The Panama canal, which was opened to commercial traffic on Aug. 15, 1914, is a waterway which is destined to be of the greatest importance to the British Columbian ports, from which vessels now leave direct for Great Britain and European ports throughout the year. As an alternative route to that of the transcontinental railway lines, such a passage by water is of vital importance in the solution of the larger transportation problems of the continent, and while its influence is perhaps more potential than actual, such a check on transcontinental rail rates is a valuable one. During the war the great expectations based upon the opening of the canal were not realized, owing to the scarcity of shipping, but, with the post-war decline in ocean freight rates, an increase in traffic between our Pacific ports and Europe is occurring, and, while the proportion carried in vessels of Canadian registry is comparatively small, the cargo tonnage has nevertheless assumed considerable proportions. During the year ended June 30, 1931, as will be seen from Table 48, a tonnage of 110,924 originating on our eastern coast and a total of 967,100 tons destined for our western coast were carried westward

¹ Revised, and figures supplied, by courtesy of the Governor of the Panama Canal Zone.

through the canal. The greater importance of the route as one from Pacific to Atlantic ports is illustrated by the total of 3,525,133 tons from western ports and 517,470 tons destined for eastern Canadian ports locked through in the same period. Strictly intercoastal Canadian cargo during the year aggregated 147,260 long tons. The canal is thus becoming an avenue of trade between Eastern and Western Canada.

The report of the Governor of the Panama Canal Zone for the year ended June 30, 1931, records a decrease from 1930 of from 6,185 to 5,529 in the number of transits, a decrease from 29,980,614 to 27,792,146 in canal net tonnage and decreases from \$27,076,890 to \$24,645,457 in tolls collected, and from 30,030,232 to 25,082,800 in tons of cargo carried (Table 49).

With respect to traffic by nationality of vessels and cargo carried, vessels of United States registration carried 11,805,132 tons, or 47.1 p.c. of the total cargo of 25,082,800 tons locked through in the year 1931. British vessels carried 5,971,281 tons, or 23.8 p.c., Japanese vessels 1,104,512 tons, or 4.4 p.c., German vessels 1,261,763 tons, or 5.0 p.c. and Norwegian vessels 1,720,383 tons, or 6.9 p.c.

48.—Traffic to and from the East and West Coasts of Canada via the Panama Canal, years ended June 30, 1921-31.

Year.	Originating on—		Destined for—	
	Canada, West Coast.	Canada, East Coast.	Canada, West Coast.	Canada, East Coast.
	long tons.	long tons.	long tons.	long tons.
1921.....	125,638	39,561	126,414	16,558
1922.....	180,981	25,174	148,305	6,521
1923.....	604,546	92,939	101,588	125,283
1924.....	1,223,102	110,677	141,086	197,204
1925.....	1,082,282	121,803	158,709	379,284
1926.....	1,650,855	160,196	168,295	614,580
1927.....	1,548,788	207,003	248,009	803,418
1928.....	2,845,675	168,287	268,960	394,173
1929.....	2,578,982	202,522	226,810	510,475
1930.....	1,947,277	261,532	179,242	189,349
1931.....	3,525,133	110,924	967,100	517,410

49.—Summary of Commercial Traffic through the Panama Canal, years ended June 30, 1915-31.

Year.	Atlantic to Pacific.		Pacific to Atlantic.		Total Traffic.	
	Vessels.	Cargo Tonnage.	Vessels.	Cargo Tonnage.	Vessels.	Cargo Tonnage.
	No.	long tons.	No.	long tons.	No.	long tons.
1915.....	522	2,070,993	553	2,817,461	1,075	4,888,454
1916.....	396	1,369,019	362	1,725,095	758	3,094,114
1917.....	874	2,929,260	929	4,129,303	1,803	7,058,563
1918.....	915	2,639,300	1,154	4,892,731	2,069	7,532,031
1919.....	857	2,740,254	1,167	4,176,367	2,024	6,916,621
1920.....	1,180	4,092,516	1,298	5,281,983	2,478	9,374,499
1921.....	1,471	5,892,078	1,421	5,707,136	2,892	11,599,214
1922.....	1,509	5,495,934	1,227	5,388,976	2,736	10,884,910
1923.....	2,125	7,086,259	1,842	12,481,616	3,967	19,567,875
1924.....	2,740	7,860,100	2,490	19,134,610	5,230	26,994,710
1925.....	2,413	7,398,397	2,260	16,560,439	4,673	23,958,836
1926.....	2,760	8,037,097	2,437	18,000,351	5,197	26,037,448
1927.....	2,888	8,583,327	2,587	19,164,888	5,475	27,748,215
1928.....	3,384	8,310,134	3,072	21,320,575	6,456	29,630,709
1929.....	3,348	9,832,520	3,065	20,780,486	6,413	30,663,006
1930.....	3,135	9,475,725	3,050	20,554,507	6,185	30,030,232
1931.....	2,804	6,680,429	2,725	18,402,371	5,529	25,082,800

PART IX.—SHIPPING AND NAVIGATION.

Canadian shipping may be divided into three classes: (1) ocean or sea-going shipping; (2) inland or rivers and lakes international shipping; and (3) coasting trade or coastwise shipping. Ocean shipping covers the sea-going vessels arriving or departing from Atlantic and Pacific Coast ports, including St. Lawrence River ports up to Montreal. Inland shipping is the term used to cover inland international shipping, *i.e.*, shipping between Canadian and United States ports on the Great Lakes and international rivers and on lakes and rivers accessible to shipping from United States ports such as the Ottawa, Rideau, Trent, etc. Ferriage is, however, excluded from this and other classes of shipping. Coastwise shipping or the coasting trade covers shipping between one Canadian port and another on the Atlantic coast, on the Pacific coast and on the inland international lakes and rivers or lakes and rivers accessible to them. It does not, however, include shipping on isolated Canadian waterways such as the Mackenzie river, lake Winnipeg, lake St. John, etc.

Whereas, in the case of most countries of such an extensive coast line, the ocean shipping is much the more important, in Canada, shipping on inland waters, while finally dependent to a large extent on ocean traffic to foreign ports, shares, almost equally with that on the Atlantic and Pacific oceans, the attention devoted to water traffic. The Great Lakes are among the leading highways of the international trade of the world; consequently the statistics of inland international shipping are included with those of sea-going shipping in Table 50, while those of sea-going shipping alone will be found in Table 51.

Tables 50-58, following, have been compiled or revised from the Shipping Report of the Department of National Revenue for the fiscal year ended Mar. 31, 1931.

50.—Sea-going and Inland Vessels (exclusive of Coasting Vessels and Ferriage) Arrived at and Departed from Canadian Ports, fiscal years ended June 30, 1901-06, and Mar. 31, 1907-31.

NOTE.—For the years 1868-1900, see Canada Year Book, 1911, p. 380.

Fiscal Year.	British.		Canadian.		Foreign.		Total Tonnage.
	No.	Tons Register.	No.	Tons Register.	No.	Tons Register.	
1901.....	4,319	6,694,133	30,211	8,540,089	33,302	10,795,586	26,029,808
1902.....	4,363	6,865,924	33,202	9,654,528	40,148	13,504,952	30,025,404
1903.....	4,647	7,753,788	31,534	10,482,940	53,545	15,418,315	33,655,043
1904.....	4,997	8,045,817	30,934	9,955,290	35,739	13,201,098	31,202,205
1905.....	4,614	8,034,652	29,729	11,047,447	35,647	13,195,721	32,277,820
1906.....	5,104	9,059,453	32,239	11,241,915	37,644	14,430,804	34,732,172
1907 (9 mos.).....	4,488	7,576,721	30,654	11,582,409	25,263	11,436,761	30,595,891
1908.....	6,356	10,329,515	28,795	11,717,846	40,461	17,527,670	39,575,031
1909.....	5,795	10,405,370	29,247	13,805,790	38,677	16,490,443	40,701,603
1910.....	5,780	11,038,709	28,635	15,680,534	41,650	17,848,748	44,567,991
1911.....	6,870	12,712,337	29,670	16,380,146	40,892	18,337,062	47,429,545
1912.....	6,766	13,342,929	27,949	18,069,983	45,399	21,560,215	52,973,127
1913.....	7,307	13,896,353	42,624	20,677,938	47,303	23,275,492	57,849,783
1914.....	7,418	15,711,849	30,234	17,026,121	55,835	29,181,513	61,919,483
1915.....	6,949	13,931,091	29,359	17,504,751	48,635	22,168,311	53,604,153
1916.....	6,817	12,417,944	37,900	17,372,836	75,411	27,930,318	57,721,098
1917.....	7,387	16,144,873	39,978	20,290,252	74,850	29,277,419	65,712,544
1918.....	7,337	16,959,790	34,786	19,890,461	70,781	29,952,237	66,802,488
1919.....	6,099	14,054,166	37,023	17,567,061	52,273	21,607,821	53,229,048
1920.....	5,511	12,320,994	37,388	16,869,619	52,327	20,302,920	49,493,533
1921.....	4,526	10,545,619	39,877	22,236,692	50,370	21,866,049	54,648,630
1922.....	4,239	10,471,403	36,679	20,029,572	67,114	26,164,278	56,665,253
1923.....	4,869	13,868,905	59,364	26,423,287	87,199	32,110,591	72,403,183
1924.....	5,187	15,158,994	53,945	28,216,588	80,700	31,571,791	74,947,373
1925.....	5,763	16,463,204	44,432	26,620,979	84,084	34,854,868	77,939,051
1926.....	6,515	17,749,067	34,010	23,149,028	55,109	34,348,732	75,246,827
1927.....	6,448	18,117,525	34,015	25,692,591	62,344	33,521,543	77,331,659
1928.....	6,253	18,738,027	38,497	28,453,951	67,771	36,611,819	83,803,797
1929.....	6,400	21,625,660	39,038	29,792,258	75,745	42,317,309	93,735,227
1930.....	5,634	20,171,383	40,251	29,137,798	107,925	40,129,608	89,438,789
1931.....	5,826	20,008,005	33,877	29,541,844	83,383	41,362,027	90,911,876

Section 1.—Ocean Shipping.

Canadian ocean shipping dates back to the days of early European fishermen who frequented the shores of Newfoundland and the Maritime Provinces. Ocean-going vessels of that time were crude wooden sailing craft of but 20 or 30 tons burden, to be entrusted only to skilful and hardy mariners for navigation through little known seas. Later exploration and settlement produced a larger volume of traffic, but it was not until the building of ships in Canada by the French assumed some dimensions that traffic became important. The first ocean-going vessels in Canada were probably built by Pont-Gravé, one of the first settlers in New France, and soon afterwards Talon and Hocquart, intendants of the colony, realizing the advantages offered to the industry by the timber resources available, gave it every encouragement. Shipyards were established at Quebec and other points along the St. Lawrence, and these, together with later establishments in the Maritime Provinces and on the western coast, have formed the principal bases of Canadian shipping on the Atlantic and the Pacific.

Canadian shipping attained some prominence in the days of fast wooden sailing vessels, and also at a later date when steam power first came into use. In 1833 the *Royal William*, a Canadian ship built to ply between Quebec and Halifax, crossed the Atlantic from Pictou to London, the first vessel to navigate the Atlantic under steam power. A few years later Samuel Cunard established the well-known steam-ship line of that name. His company pursued a conservative course; wooden ships were used long after iron hulls were a proven success, and paddle wheels after the introduction of the screw propeller. By 1867 the company's business had shifted to New York and its terminal was moved thither from Halifax. The Allan line had a somewhat similar early history but remained a purely Canadian company. In addition to other lines of less importance, both the C.P.R. and the Dominion Government operate fleets on the Atlantic and the Pacific oceans.

In the following tables statistics are given of sea-going vessels entered and cleared at Canadian ports during the fiscal years from 1901 to 1931 (Table 51); of the nationalities, tonnages of freight carried, and numbers of crews of vessels entered and cleared at Canadian ports in the fiscal years ended 1930 and 1931 (Table 52); of entrances and clearances of sea-going ships at the principal ports (Table 57); and of the countries whence arrived and to which departed (Table 53). The number and particularly the tonnage of vessels entered and cleared at Canadian ports in both ocean and coasting trade, indicate clearly the predominance of British and Canadian shipping over that of all other nations. This is particularly the case on the Atlantic coast, where the bulk of our European and South American trade is handled. The figures in Table 51 show a significant and fairly steady expansion in the total of ocean shipping through Canadian ports since the beginning of the century.

51.—Sea-going Vessels Entered and Cleared at Canadian Ports with Cargo and in Ballast, fiscal years ended June 30, 1901-06, and Mar. 31, 1907-31.

NOTE.—For corresponding figures for the years 1868-1900, see Canada Year Book, 1911, p. 379.

Fiscal Year.	British.		Canadian.		Foreign.		Total Tonnage.
	No.	Tons Register.	No.	Tons Register.	No.	Tons Register.	
1901.....	4,319	6,694,133	9,910	1,677,138	12,476	6,171,791	14,543,062
1902.....	4,363	6,865,924	11,413	1,937,227	14,530	5,928,237	14,731,488
1903.....	4,647	7,753,788	11,282	2,085,568	12,403	6,001,819	15,841,175
1904.....	4,997	8,045,817	11,045	1,979,803	14,002	5,801,085	15,826,705
1905.....	4,614	8,034,652	11,279	2,269,834	11,904	5,283,969	15,588,455
1906.....	5,104	9,059,453	12,201	2,304,942	12,511	5,479,034	16,843,429
1907 (9 mos.).....	4,488	7,576,721	7,880	1,899,141	8,107	4,429,012	13,904,874
1908.....	6,356	10,329,515	10,562	2,606,660	12,886	6,555,096	19,491,271
1909.....	5,795	10,405,370	10,946	2,806,278	13,441	6,554,228	19,765,876
1910.....	5,780	11,038,709	10,875	3,498,361	13,147	6,267,243	20,804,313
1911.....	6,870	12,712,337	10,607	3,341,998	12,467	6,242,851	22,297,186
1912.....	6,766	13,342,929	10,966	4,618,163	15,134	6,628,513	24,589,605
1913.....	7,307	13,896,353	11,810	4,530,835	16,549	7,803,910	26,231,098
1914.....	7,418	15,711,849	12,786	5,160,799	15,811	8,695,838	29,568,486
1915.....	6,949	13,931,091	11,903	4,005,011	15,060	7,466,484	25,402,586
1916.....	6,817	12,417,944	12,386	3,894,731	18,559	8,514,975	24,827,650
1917.....	7,387	16,144,873	12,241	4,343,448	18,500	8,778,753	29,267,074
1918.....	7,337	16,959,790	10,998	4,343,853	16,597	11,483,484	32,787,127
1919.....	6,099	14,054,166	11,115	3,758,528	15,132	7,448,699	25,261,393
1920.....	5,511	12,320,994	11,994	4,434,634	17,353	8,489,126	25,244,754
1921.....	4,526	10,545,619	12,490	5,510,484	17,624	8,860,626	24,916,729
1922.....	4,239	10,471,403	14,929	6,861,202	17,170	10,261,865	27,594,470
1923.....	4,869	13,868,905	16,693	7,463,809	17,493	12,945,623	34,278,337
1924.....	5,187	15,158,994	16,778	7,698,045	16,795	14,161,363	37,018,402
1925.....	5,763	16,463,204	17,779	7,966,193	17,314	16,551,629	40,981,026
1926.....	6,515	17,749,067	17,906	9,703,054	18,117	18,202,875	45,654,996
1927.....	6,448	18,117,525	16,746	8,926,138	19,111	19,106,106	46,149,669
1928.....	6,253	18,738,027	16,716	9,021,264	18,561	20,455,343	48,214,634
1929.....	6,400	21,625,660	18,005	9,235,036	21,021	23,547,831	54,408,527
1930.....	5,634	20,171,383	18,145	9,673,948	19,689	23,146,901	52,992,232
1931.....	5,826	20,008,005	17,865	11,707,129	17,906	22,885,015	54,600,149

52.—Details, by Nationality, of Sea-going Vessels (exclusive of Coasting Vessels) Entered and Cleared at Canadian Ports, fiscal years ended Mar. 31, 1930 and 1931.

Nationality.	Number of Vessels.	Tons Register.	Freight.		Number of Crew.
			Tons Weight.	Tons Measure- ment.	
1930.					
ENTERED.					
British.....	2,858	10,724,845	2,317,220	247,496	273,078
Canadian.....	8,926	4,829,904	1,699,180	32,365	185,980
Foreign.....	9,799	11,601,017	4,109,950	64,896	288,879
Totals.....	21,583	27,155,766	8,126,350	344,757	747,937
CLEARED.					
British.....	2,776	9,446,538	4,424,814	1,217,126	228,501
Canadian.....	9,219	4,844,044	1,295,855	143,736	185,902
Foreign.....	9,890	11,545,884	4,701,007	511,051	283,721
Totals.....	21,885	25,836,466	10,421,676	1,871,913	698,124
TOTALS, ENTERED AND CLEARED.					
British.....	5,634	20,171,383	6,742,034	1,464,622	501,579
Canadian.....	18,145	9,673,948	2,995,035	176,101	371,882
Foreign.....	19,689	23,146,901	8,810,957	575,947	572,600
Totals.....	43,468	52,992,232	18,548,026	2,216,670	1,446,061

52.—Sea-going Vessels (exclusive of Coasting Vessels) Entered and Cleared at Canadian Ports, fiscal years ended Mar. 31, 1930 and 1931—concluded.

Nationality.	Number of Vessels.	Tons Register.	Freight.		Number of Crew.
			Tons Weight.	Tons Measure- ment.	
1931.					
ENTERED.					
British.....	2,962	10,746,965	2,671,576	272,269	271,623
Canadian.....	8,904	6,066,752	1,330,623	23,754	240,867
Foreign.....	8,871	11,251,045	3,461,880	54,013	265,211
Totals.....	20,737	28,064,762	7,464,079	350,036	777,693
CLEARED.					
British.....	2,864	9,261,040	3,984,518	501,785	224,905
Canadian.....	8,961	5,640,377	920,508	166,657	227,008
Foreign.....	9,035	11,633,970	4,830,537	437,531	271,950
Totals.....	20,860	26,535,387	9,735,563	1,105,973	723,903
TOTALS, ENTERED AND CLEARED.					
British.....	5,826	20,008,005	6,656,094	774,054	496,508
Canadian.....	17,865	11,707,129	2,251,131	190,411	467,868
Foreign.....	17,906	22,885,015	8,292,417	491,544	537,164
Totals.....	41,597	54,600,149	17,199,642	1,456,009	1,501,660

53.—Sea-going Vessels Entered and Cleared, by Principal Countries, fiscal year ended Mar. 31, 1931.

VESSELS ENTERED INWARDS.

Country Whence Arrived.	British.			Canadian.			Foreign.		
	No. of Vessels.	Tons Register.	Crew, No.	No. of Vessels.	Tons Register.	Crew, No.	No. of Vessels.	Tons Register.	Crew, No.
Great Britain.....	943	5,583,438	148,435	65	101,458	1,749	126	243,130	3,483
Australia.....	45	288,633	7,835	18	63,862	730	4	13,580	132
Hong Kong.....	23	189,689	5,194	—	—	—	8	50,413	1,015
British West Indies.....	33	55,183	795	195	532,060	12,207	123	151,389	2,990
Newfoundland.....	716	523,247	20,285	226	108,185	4,547	191	314,733	4,822
New Zealand.....	8	54,918	1,467	7	25,495	270	6	21,326	200
Other Br. possessions.....	64	229,115	2,525	—	—	—	26	73,099	822
Argentina.....	9	25,450	328	18	65,217	689	37	117,128	1,266
Belgium.....	61	513,145	14,115	2	1,091	37	64	218,998	2,499
China.....	36	196,428	4,313	5	48,155	2,716	65	315,030	5,510
Colombia.....	3	17,638	123	22	123,900	962	2	8,764	77
Denmark.....	—	—	—	—	—	—	53	292,757	9,257
France.....	10	63,867	1,132	—	—	—	61	216,466	5,300
Germany.....	34	288,010	8,277	—	—	—	123	631,860	14,436
Holland.....	29	149,744	1,646	—	—	—	77	402,977	7,194
Italy.....	2	8,004	66	—	—	—	38	148,659	1,750
Japan.....	67	340,650	8,186	22	185,452	10,568	207	971,490	15,430
Mexico.....	6	18,367	205	10	404	49	2	1,406	30
Norway.....	1	2,078	28	—	—	—	37	133,809	3,500
Peru.....	3	13,146	114	20	103,400	876	8	35,779	300
St. Pierre and Miquelon.....	64	9,015	683	259	31,535	2,623	47	28,718	87
Spain.....	3	8,508	134	—	—	—	7	6,755	13
Sweden.....	—	—	—	—	—	—	40	223,285	6,000
United States.....	511	1,801,756	37,263	5,726	4,443,939	180,751	5,801	6,236,914	155,588
Sea fisheries.....	143	7,974	1,921	2,159	92,750	20,274	1,608	91,579	17,600
From Sea.....	59	51,840	3,243	123	8,473	679	18	22,344	580
Totals¹.....	2,962	10,746,965	271,623	8,904	6,066,752	240,860	8,871	11,251,045	265,211

¹Include other countries not specified.

53.—Sea-going Vessels Entered and Cleared, by Principal Countries, fiscal year ended Mar. 31, 1931—concluded.

VESSELS CLEARED OUTWARDS.

Country to Which Departed.	British.			Canadian.			Foreign.		
	No. of Vessels.	Tons Register.	Crew, No.	No. of Vessels.	Tons Register.	Crew, No.	No. of Vessels.	Tons Register.	Crew, No.
Great Britain.....	782	4,222,361	98,999	35	78,939	1,345	234	684,388	7,360
Australia.....	47	289,143	7,498	21	75,044	831	10	30,110	363
British South Africa.....	10	36,386	533	—	—	—	9	28,489	308
British West Indies.....	27	22,240	548	123	255,313	5,598	103	125,885	2,523
Newfoundland.....	762	571,831	21,223	450	123,956	6,057	190	305,213	4,568
New Zealand.....	10	64,553	1,662	13	47,561	531	14	49,994	472
British Guiana.....	1	3,020	34	57	79,622	4,209	—	—	—
Hong Kong.....	26	240,644	7,440	8	70,688	4,892	3	16,443	307
Other Br. possessions.....	93	457,931	11,912	5	3,358	41	37	116,696	1,308
Argentina.....	15	45,229	614	9	31,055	385	37	124,345	1,309
Belgium.....	39	103,348	1,291	—	—	—	69	171,789	2,268
China.....	31	101,737	1,168	5	51,163	2,782	60	274,189	4,372
Colombia.....	8	37,556	309	30	165,952	1,294	18	40,065	538
Cuba.....	8	15,330	330	2	1,231	32	37	73,638	1,920
Denmark.....	1	4,961	89	—	—	—	37	164,859	3,754
France.....	53	340,381	9,892	—	—	—	98	329,420	5,078
Germany.....	1	3,295	46	—	—	—	88	382,051	5,536
Greece.....	11	31,178	352	—	—	—	29	78,800	870
Holland.....	30	96,731	1,172	—	—	—	50	178,309	1,992
Italy.....	46	134,798	1,551	—	—	—	71	234,322	2,617
Japan.....	11	110,630	3,883	19	154,948	7,489	328	1,489,938	21,073
Mexico.....	3	7,439	89	15	4,655	136	2	8,562	68
Norway.....	—	—	—	—	—	—	20	68,951	1,251
Peru.....	3	15,376	122	9	53,059	398	17	48,453	579
St. Pierre and Miquelon.....	51	19,270	650	231	57,607	3,281	53	26,807	919
Sweden.....	—	—	—	—	—	—	31	177,782	4,378
United States.....	563	2,098,408	46,654	5,589	4,155,412	165,701	6,031	6,226,602	175,174
Sea Fisheries.....	158	9,553	2,255	2,279	94,887	20,575	1,147	90,302	18,359
For Sea.....	48	55,910	3,314	18	304	60	185	9,826	1,356
Totals¹.....	2,864	9,261,040	224,945	8,961	5,640,377	227,008	9,035	11,633,970	271,950

¹Include other countries not specified.

Section 2.—Inland Shipping.

Inland shipping is associated in its beginnings with the birch-bark canoe of the American Indian. The advantages of this light and easily navigable boat were realized by explorers and fur traders, and for many years it was in general use, giving way to more substantial craft only with the demands of heavier traffic. The *bateau* and Durham boat came into common use after the migration of the U.E. Loyalists and, on the St. Lawrence and the other main highways of the time, they also soon gave place to larger vessels. Original plans of the Lachine canal, which called for a width of 12 feet and a depth of 18 inches, afford an illustration of the size of these primitive craft.

In the absence of any roads to make land travel possible, the St. Lawrence river and the Great Lakes formed the main highway to the interior. The route from Montreal to the Upper Lakes was broken at three places—from Montreal to Kingston transportation was by *bateau* or Durham boat, from Kingston to Queenston schooners were used, then there was the portage road from Queenston to Chippawa and, finally, schooner again to the destination. The charge for transporting a barrel of rum from Montreal to Kingston was from \$3 to \$3.50, and freight charges on other goods were proportions of this standard rate.

In 1809, the *Accommodation*, the first Canadian steamship, was built for the Hon. John Molson, to run between Montreal and Quebec. By 1818 Molson had formed a company, the St. Lawrence Steamship Company or the Molson Line. On lake Ontario, the *Frontenac*, beginning with 1817, was used on a weekly service between York and Prescott and, following this beginning, came a period of great

activity in lake and river shipping. In 1845, the *Gore* reached lake Huron by way of the Welland canal to carry on transport trade on the Upper Lakes, where previously there had not been enough traffic to support a large ship. Shipping on the Upper Lakes became brisker now, for there were settlers to be carried from Buffalo to the western United States and grain to be brought back. In this period Canadian shipping made its profit by carrying American goods, for there was little traffic originating in the Canadian near-West.

With the advent of steam railways water-borne traffic was not decreased but, on the contrary, increased, and at present the greater part of the western grain is shipped *via* the Great Lakes route to eastern ports. The iron ore and coal traffic between lake Superior and lake Erie ranges between 60 and 80 million short tons per annum; the total traffic on these upper lakes alone is greater than that carried by all Canadian railways and about one-twelfth of that carried by all United States railways.

Inland International Shipping.—Statistics of the inland international shipping between Canadian and United States ports for the fiscal years ended Mar. 31, 1927-31, exclusive of ferriage, are given in Table 54. The total tonnages of inland international shipping entered and cleared in the fiscal years 1920-31, were as follows: 1920, 24,248,779; 1921, 29,731,901; 1922, 29,070,783; 1923, 38,124,846; 1924, 37,928,971; 1925, 36,958,025; 1926, 29,591,831; 1927, 31,181,890; 1928, 35,589,163; 1929, 39,326,700; 1930, 36,446,557; 1931, 36,311,727.

54.—Canadian and United States Shipping*on Rivers and Lakes between Canadian and United States Ports, exclusive of Ferriage, fiscal years ended Mar. 31, 1927-31.

Item..	1927.	1928.	1929.	1930.	1931.
Vessels Arrived—					
Canadian—					
Steam and motor.....No.	7,919	9,946	9,677	9,285	7,222
Tons register.....	7,933,752	8,689,990	9,496,259	9,183,401	8,666,399
Number of crew.....	255,678	276,095	280,107	271,221	236,561
Sail.....No.	490	330	270	1,276	51
Tons register.....	150,331	101,618	57,077	72,227	64,838
Number of crew.....	1,968	1,380	1,093	2,080	1,232
United States—					
Steam and motor.....No.	19,718	23,769	26,261	42,989	32,222
Tons register.....	6,242,647	7,609,732	8,921,558	8,010,012	8,783,222
Number of crew.....	157,202	179,096	196,118	261,251	261,641
Sail.....No.	1,749	1,028	1,112	1,192	64
Tons register.....	535,366	344,292	512,827	284,945	255,222
Number of crew.....	3,999	2,993	4,604	2,758	1,922
Description of vessels—					
Steam, screw.....No.	25,864	12,818	25,395	39,806	29,722
Steam, paddle....."	1,538	2,008	2,013	1,630	1,422
Steam, sternwheel....."	235	9	9	9	9
Motor....."	—	18,880	8,522	10,829	8,222
Sail....."	141	97	83	43	22
Sail, barges....."	2,098	1,261	1,298	2,425	822
Vessels Departed—					
Canadian—					
Steam and motor.....No.	8,315	11,157	10,855	9,894	7,422
Tons register.....	8,520,689	10,550,279	10,952,282	10,133,814	9,015,822
Number of crew.....	258,618	282,831	297,325	283,083	240,422
Sail.....No.	545	348	231	1,651	41
Tons register.....	161,681	90,800	51,604	74,408	88,122
Number of crew.....	2,175	1,453	843	2,496	1,522
United States—					
Steam and motor.....No.	19,915	23,239	26,135	42,807	31,122
Tons register.....	7,102,418	7,834,436	8,816,991	8,389,248	9,203,222
Number of crew.....	166,775	195,173	212,840	263,265	259,222
Sail.....No.	1,851	1,174	1,216	1,248	64
Tons register.....	535,006	368,016	518,072	298,502	234,222
Number of crew.....	4,133	3,342	5,210	2,932	2,222
Description of vessels—					
Steam and motor, screw.....No.	26,491	13,973	26,261	40,194	30,222
Steam and motor, paddle....."	1,506	1,989	1,997	1,715	1,422
Steam and motor, sternwheel....."	233	9	9	9	9
Motor....."	—	18,425	8,723	10,783	8,222
Sail....."	146	146	74	36	22
Sail, barges....."	2,250	1,376	1,373	2,863	1,222

*Not separated from steamers prior to 1928.

Section 3.—Coasting Trade.

Statistics of the arrivals and departures of the vessels engaged in the coasting trade of Canada, whether on the sea or the Great Lakes and international rivers, are given in Table 55. This statement does not include vessels plying on inland waterways inaccessible to international shipping nor does it include ferry services between one Canadian port and another.

55.—British and Foreign Vessels Employed in the Coasting Trade of Canada, fiscal years ended Mar. 31, 1927-31.

Item.	1927.	1928.	1929.	1930.	1931.
Vessels Arrived—					
British—					
Steam and motor.....No.	79,009	83,371	83,714	74,170	71,076
Tons register.....	38,613,812	40,893,914	43,810,823	39,332,171	42,444,698
Number of crew.....	1,568,799	1,777,703	1,656,274	1,552,640	1,567,482
Sail.....No.	12,161	10,798	10,574	7,364	5,828
Tons register.....	3,723,565	3,530,357	4,195,107	3,555,731	2,870,756
Number of crew.....	56,119	56,562	39,975	31,558	25,494
Foreign—					
Steam and motor.....No.	916	707	670	596	528
Tons register.....	736,194	924,691	1,019,911	763,632	796,098
Number of crew.....	14,642	15,740	15,765	13,746	12,593
Sail.....No.	136	105	89	75	75
Tons register.....	51,348	32,624	20,747	15,332	17,100
Number of crew.....	632	581	440	309	399
Description of vessels—					
Steam, screw.....No.	75,193	72,904	70,520	61,246	58,083
Steam, paddle....."	3,381	2,994	2,560	2,292	1,750
Steam, sternwheel....."	1,351	1,557	947	272	176
Motor ¹"	-	6,623	10,357	10,956	595
Sail, ships....."	1				
Sail, barks....."	1,118				
Sail, brigantines....."		5,938	5,101	3,204	2,565
Sail, schooners....."	6,660				
Sail, sloops, barges, canal boats, etc....."	4,518	4,965	5,562	4,235	3,338
Vessels Departed—					
British—					
Steam and motor.....No.	78,127	83,197	82,680	74,323	71,058
Tons register.....	38,422,848	40,008,995	43,076,773	39,653,349	43,813,306
Number of crew.....	1,585,907	1,763,783	1,741,032	1,556,378	1,611,737
Sail.....No.	11,663	10,530	10,460	7,195	5,639
Tons register.....	3,653,974	3,300,910	4,097,105	3,591,010	2,896,156
Number of crew.....	50,286	50,118	40,677	30,708	24,759
Foreign—					
Steam and motor.....No.	883	842	626	600	585
Tons register.....	497,773	813,315	809,051	808,220	816,330
Number of crew.....	12,812	16,793	15,085	12,915	14,042
Sail.....No.	141	145	139	79	72
Tons register.....	42,872	22,810	24,168	15,328	14,763
Number of crew.....	491	422	481	284	310
Description of vessels—					
Steam, screw.....No.	74,289	72,754	69,474	61,214	58,176
Steam, paddle....."	3,384	2,982	2,589	2,230	1,656
Steam, sternwheel....."	1,337	1,551	955	323	176
Motor ¹"	-	6,752	10,288	11,156	11,635
Sail, ships....."	10				
Sail, barks....."	1,232	5,703	4,806	2,948	2,368
Sail, brigantines....."					
Sail, schooners....."	6,256				
Sail, sloops, barges, canal boats, etc....."	4,306	4,972	5,793	4,326	3,343

¹Not separated from steamers prior to 1928.

Section 4.—Grand Total Shipping Trade.

A statement is given in Table 56 showing sea-going, coastwise, inland and total vessels entered and cleared at Canadian ports, by provinces, during the fiscal year ended Mar. 31, 1931, and totals for the fiscal years 1923 to 1931. It is noteworthy in this table that the volume of coastwise shipping is the greatest while sea-going is next in tonnage. In the period covered since 1923, both sea-going

and coastwise shipping have shown a trend of marked expansion. Inland international shipping, on the other hand, has varied considerably from year to year without showing any definite trend. It is, however, significant of the importance of water-borne traffic on the inland rivers and lakes that the total tonnage of shipping entered and cleared was greater for Ontario ports than those of any other province in the fiscal year ended 1930 and in the latest year, 1931, was only slightly below the Pacific Coast province. This was due to the fact that the greater bulk of the inland international shipping was through Ontario ports, while there was also a large tonnage of coasting trade through these ports. Quebec came third in total shipping, in 1931, followed by Nova Scotia and New Brunswick.

56.—Total Number and Tonnage of All Vessels¹ Entered and Cleared at Canadian Ports, by Provinces, during the fiscal year ended Mar. 31, 1931, with Totals for the fiscal years ended 1923-31.

Province.	Sea-going.				Coastwise.			
	Arrived.		Departed.		Arrived.		Departed.	
	Ves-sels.	Tons Register.	Ves-sels.	Tons Register.	Ves-sels.	Tons Register.	Ves-sels.	Tons Register.
Nova Scotia.....	4,870	5,891,860	5,373	6,210,586	15,719	4,127,574	15,382	3,640,850
Prince Edward Island.....	73	56,932	114	101,033	868	262,066	843	238,120
New Brunswick.....	4,443	1,668,381	4,184	1,470,123	3,228	1,030,871	3,369	1,209,000
Quebec.....	1,524	6,665,846	1,374	5,104,129	9,100	10,530,843	9,182	11,854,820
Ontario.....	4	4,848	5	5,222	13,889	13,998,588	13,284	12,918,570
Manitoba.....	—	—	—	—	3	250	3	250
British Columbia.....	9,823	13,776,895	9,810	13,644,294	34,491	17,043,026	35,085	17,538,620
Yukon.....	—	—	—	—	209	17,141,434	206	140,220
Totals, 1931.....	20,737	28,064,762	20,860	26,535,387	77,507	47,134,652	77,354	47,540,550
Totals, 1930.....	21,583	27,155,766	21,885	25,836,466	82,205	43,666,566	82,197	44,067,900
Totals, 1929.....	22,531	27,464,158	22,895	26,944,369	95,047	49,046,588	93,905	48,007,000
Totals, 1928.....	20,903	21,240,847	20,627	23,973,787	91,931	45,381,586	94,714	44,146,000
Totals, 1927.....	21,382	23,224,281	20,923	22,925,488	92,222	43,124,919	90,814	42,617,400
Totals, 1926.....	21,185	22,837,720	21,353	22,817,276	88,693	41,770,480	87,878	41,117,400
Totals, 1925.....	20,436	20,470,379	20,420	20,510,647	87,185	40,480,372	87,091	40,139,400
Totals, 1924.....	19,261	18,497,025	19,499	18,521,377	88,035	39,268,712	84,762	38,096,400
Totals, 1923.....	19,462	17,095,883	19,593	17,182,454	82,560	36,240,041	80,033	34,730,000

Province.	Inland International.				Totals.			
Nova Scotia.....	—	—	—	—	20,589	10,019,434	20,755	9,851,400
Prince Edward Island.....	—	—	—	—	941	318,998	957	2,339,000
New Brunswick.....	—	—	—	—	7,671	2,699,252	7,553	2,679,100
Quebec.....	1,158	950,289	1,347	1,108,280	11,782	18,140,978	11,903	18,067,000
Ontario.....	39,349	16,808,989	39,327	17,423,967	53,242	30,812,425	52,616	30,347,000
Manitoba.....	—	—	—	—	3	250	3	250
British Columbia.....	139	3,838	135	3,142	44,453	30,823,759	45,030	31,186,000
Yukon.....	17	6,574	17	6,648	226	148,008	223	146,000
Totals, 1931.....	40,663	17,769,690	40,826	18,542,037	138,907	92,969,104	139,040	92,617,000
Totals, 1930.....	54,742	17,550,585	55,600	18,895,972	158,530	88,373,217	159,682	88,800,000
Totals, 1929.....	37,320	18,987,751	38,437	20,338,949	154,898	95,498,497	155,237	95,290,000
Totals, 1928.....	35,073	16,745,632	35,918	18,843,531	150,957	86,368,065	151,259	86,963,000
Totals, 1927.....	29,876	14,862,096	30,626	16,319,794	143,480	81,211,296	142,363	81,862,000
Totals, 1926.....	26,040	14,117,099	27,056	15,474,732	135,918	78,725,299	136,287	79,409,000
Totals, 1925.....	46,412	17,616,105	47,011	19,341,920	154,033	78,566,856	154,522	79,992,000
Totals, 1924.....	50,314	18,926,976	50,758	19,001,995	157,610	76,692,713	155,019	75,619,000
Totals, 1923.....	55,958	18,864,448	56,419	19,260,398	157,980	72,200,372	156,045	71,172,000

¹Exclusive of ferriage.

The relative volume of shipping in the leading ports of the provinces of Canada is shown in Table 57. Details are given of the sea-going vessels and of the total of all shipping (exclusive of ferriage) arrived and departed at each port. In the fiscal year ended Mar. 31, 1931, the tonnage of sea-going vessels arriving and departing at Vancouver exceeded that at any other port in Canada, while Victoria was next, followed by Halifax and Montreal. In total shipping, which included coastwise and inland international as well as sea-going shipping, Vancouver was considerably in the lead, followed by Victoria, Montreal and Halifax.

57.—Number and Tonnage of Sea-going and of All Vessels Entered and Cleared at the Principal Ports of Canada, fiscal year ended Mar. 31, 1931.

NOTE.—For details of coastwise and inland international shipping for these ports and for all other ports of Canada, see the Shipping Report of the Department of National Revenue for the fiscal year ended Mar. 31, 1931.

Province and Port.	Sea-going Vessels.				Total Shipping.			
	Arrived.		Departed.		Arrived.		Departed.	
	Ves-sels.	Tons Register.	Ves-sels.	Tons Register.	Ves-sels.	Tons Register.	Ves-sels.	Tons Register.
Prince Edward Island— Charlottetown.....	37	39,594	68	78,162	619	223,739	640	239,042
Nova Scotia—								
Baddeck.....	23	21,073	28	23,923	594	79,884	595	78,460
Canso.....	101	17,792	155	20,735	1,813	220,461	1,829	219,185
Digby.....	22	1,371	26	1,106	548	476,647	550	448,980
Halifax.....	1,507	4,090,886	1,719	4,093,352	3,597	4,774,115	3,640	4,613,622
Louisburg.....	31	18,083	35	12,093	200	62,546	193	68,038
North Sydney.....	830	324,774	825	325,369	1,590	587,305	1,614	589,367
Parrsboro.....	90	38,390	123	55,759	546	99,653	554	99,044
Pictou.....	13	9,555	12	9,271	588	175,670	586	174,068
Port Mulgrave.....	—	—	—	—	1,165	118,692	1,165	117,796
Sydney.....	207	407,005	343	664,346	1,233	1,704,133	1,231	1,703,092
Windsor.....	157	229,448	165	234,159	307	298,324	307	298,342
Yarmouth.....	442	455,983	427	450,612	902	487,277	926	487,906
New Brunswick—								
Saint John.....	718	1,317,680	586	1,047,949	2,358	1,988,416	2,356	1,984,967
St. Andrews.....	1,310	108,030	1,304	87,449	1,574	139,538	1,578	119,071
Quebec—								
Chicoutimi.....	7	13,007	—	—	93	108,317	89	104,351
Gaspé.....	28	35,894	33	43,650	135	180,652	137	170,510
Lévis.....	10	29,163	—	—	87	219,577	85	219,269
Montreal.....	838	3,693,696	861	3,643,528	5,641	8,258,899	5,585	8,260,142
Port Alfred.....	26	61,832	21	57,410	162	425,672	162	416,772
Quebec.....	446	2,445,823	243	926,428	2,257	4,394,433	2,229	4,374,790
Rimouski.....	8	43,929	67	83,709	793	326,958	796	285,762
Sorel.....	19	54,715	25	70,494	738	1,658,404	748	1,656,071
Three Rivers.....	86	260,137	86	260,137	1,383	2,260,813	1,388	2,263,481
Ontario—								
Amherstburg.....	—	—	—	—	1,636	372,605	1,587	793,024
Belleville.....	4	4,848	5	5,222	162	116,378	163	116,908
Brockville.....	—	—	—	—	944	592,700	945	592,714
Cobourg.....	—	—	—	—	643	2,073,720	643	2,022,063
Collingwood.....	—	—	—	—	69	98,214	86	133,643
Cornwall.....	—	—	—	—	207	259,536	174	146,895
Depot Harbour.....	—	—	—	—	119	251,613	118	247,652
Erieau.....	—	—	—	—	95	128,582	92	126,465
Fort William.....	—	—	—	—	1,171	3,064,148	1,042	2,707,193
Goderich.....	—	—	—	—	80	135,439	78	144,649
Gore Bay.....	—	—	—	—	167	63,427	163	61,738
Hamilton.....	—	—	—	—	951	952,345	754	744,677
Kingston.....	—	—	—	—	2,192	1,099,925	2,121	1,139,616
Little Current.....	—	—	—	—	245	197,950	245	197,594
Midland.....	—	—	—	—	226	403,945	230	414,674

57.—Number and Tonnage of Sea-going and of All Vessels Entered and Cleared at the Principal Ports of Canada, fiscal year ended Mar. 31, 1931—concluded.

Province and Port.	Sea-going Vessels.				Total Shipping.			
	Arrived.		Departed.		Arrived.		Departed.	
	Ves-sels.	Tons Register.	Ves-sels.	Tons Register.	Ves-sels.	Tons Register.	Ves-sels.	Tons Register.
Ontario—concluded.								
Niagara Falls.....	-	-	-	-	1,778	1,701,622	1,787	1,685,513
Owen Sound.....	-	-	-	-	363	305,822	362	309,995
Port Arthur.....	-	-	-	-	1,246	3,159,367	1,357	3,427,235
Port Colborne.....	-	-	-	-	1,239	2,145,389	1,277	2,160,447
Port Dalhousie.....	-	-	-	-	506	315,741	520	323,709
Port Dover.....	-	-	-	-	273	196,745	203	195,905
Port McNicoll.....	-	-	-	-	161	394,005	161	401,204
Port Stanley.....	-	-	-	-	188	247,762	190	248,894
Prescott.....	-	-	-	-	1,112	795,950	1,068	753,267
Sandwich.....	-	-	-	-	558	304,065	557	295,826
Sarnia.....	-	-	-	-	19,407	3,855,670	19,413	3,847,205
Sault Ste. Marie.....	-	-	-	-	1,990	2,019,112	1,961	1,960,947
Thorold.....	-	-	-	-	191	236,758	188	233,477
Toronto.....	-	-	-	-	2,565	2,493,338	2,537	2,121,351
Walkerville.....	-	-	-	-	1,370	177,621	1,382	181,852
Wallaceburg.....	-	-	-	-	480	405,740	476	405,422
Welland.....	-	-	-	-	232	255,477	142	162,635
Windsor.....	-	-	-	-	465	864,106	455	868,806
British Columbia—								
Alert Bay.....	90	8,669	104	9,679	1,317	611,475	1,332	614,360
Anox.....	10	95	17	12,892	518	336,762	524	335,444
Bamfield.....	34	1,646	34	2,012	576	120,390	581	120,315
Britannia Beach.....	97	181,499	94	180,224	854	297,268	844	327,999
Butedale.....	87	2,079	86	1,935	676	219,971	675	221,861
Chemainus.....	241	162,776	325	399,729	768	264,875	842	502,684
Ladysmith.....	99	46,688	156	39,524	1,601	632,991	1,623	624,794
Nanaimo.....	141	90,527	277	248,647	2,472	1,178,083	2,564	1,332,177
New Westminster.....	395	1,027,518	364	1,016,253	2,008	1,533,233	2,050	1,557,285
Ocean Falls.....	65	129,192	79	98,888	1,049	732,758	1,052	671,846
Port Alberni.....	29	76,884	62	187,831	399	189,288	434	301,346
Powell River.....	205	295,842	185	293,091	2,323	1,170,188	2,322	1,219,116
Prince Rupert.....	2,330	228,598	2,321	226,377	4,020	975,387	4,099	982,922
Quatsino.....	104	33,943	117	76,158	364	169,583	361	167,397
Stewart.....	16	8,691	26	26,465	294	306,747	290	295,452
Sidney.....	321	112,135	285	111,203	621	245,322	620	245,387
Union Bay.....	35	31,305	57	122,202	775	249,672	805	348,062
Vancouver.....	2,470	6,269,260	2,239	6,052,626	16,159	12,645,982	13,278	12,300,465
Victoria.....	2,593	4,970,336	2,404	4,411,715	6,130	8,640,420	6,193	8,701,323

Section 5.—Shipping Constructed and on the Registry.

The shipbuilding industry in Canada dates from the earliest settlement of the country, and up till the 1870's was one of the leading industries of Quebec and of the Maritime Provinces, 490 vessels with a total tonnage of 183,010 being constructed in the calendar year 1874. At this time, however, the advent of the steel ship rendered the wooden vessels, the materials for which was so abundant in Canada, obsolete, with the result that the tonnage built has never again reached the above figure, though in the fiscal years 1919 and 1920 the construction of the Canadian Government Merchant Marine, built as an extraordinary measure arising out of the war, raised the totals constructed to 104,444 and 164,074 tons respectively. Statistics of ships built and registered in Canada or sold to other countries are given in Table 58. For further information on the shipbuilding industry, see Table 6 of the chapter on Manufactures pp. 334-5.

58.—Vessels Built and Registered in Canada and Vessels Sold to Other Countries, fiscal years ended June 30, 1901-06, and Mar. 31, 1907-31.

NOTE.—For 1874-1900, see Canada Year Book, 1911, p. 383. Statistics are from the Shipping Reports of the Department of National Revenue.

Fiscal Year.	Built.		Registered.		Sold to Other Countries.		
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	Value.
							\$
1901.....	240	21,956	327	35,156	5	4,490	66,468
1902.....	260	28,288	316	34,236	27	11,360	235,865
1903.....	295	30,856	312	41,405	21	11,172	220,602
1904.....	214	28,397	243	33,192	11	7,208	87,115
1905.....	248	21,865	335	27,583	21	3,696	100,363
1906.....	323	18,724	420	37,639	45	9,487	187,725
1907 (9 months).....	229	33,205	257	31,635	17	3,855	68,190
1908.....	361	49,928	357	78,144	28	4,515	132,900
1909.....	303	29,023	277	32,899	16	3,644	98,643
1910.....	264	24,059	220	33,383	14	5,047	133,800
1911.....	247	22,812	234	50,006	17	5,885	201,526
1912.....	326	31,065	302	30,021	18	4,265	140,350
1913.....	324	24,325	328	30,225	20	7,976	610,650
1914.....	289	46,887	230	46,909	27	8,258	169,618
1915.....	224	45,721	237	55,384	21	17,044	1,150,950
1916.....	167	13,497	325	102,239	21	4,529	192,575
1917.....	184	28,638	334	105,826	47	24,954	4,398,570
1918.....	216	53,912	336	70,350	63	25,252	5,330,850
1919.....	277	104,444	327	102,883	85	48,965	14,612,338
1920.....	352	164,074	459	237,022	68	53,407	17,819,477
1921.....	220	95,838	323	188,915	69	34,623	8,456,573
1922.....	143	78,409	228	131,732	35	25,462	3,399,450
1923.....	154	14,868	274	57,446	18	26,394	1,009,327
1924.....	160	20,336	194	74,311	21	17,076	605,211
1925.....	232	36,147	198	48,054	28	21,689	717,730
1926.....	247	39,840	218	88,380	27	24,673	1,413,150
1927.....	341	32,801	281	79,448	32	27,027	1,984,040
1928.....	236	12,904	417	64,301	31	16,307	599,490
1929.....	328	49,798	386	155,972	30	18,627	154,750
1930.....	282	28,871	468	84,529	34	33,779	805,636
1931.....	294	45,162	396	129,088	22	8,865	421,500

The numbers and net tonnages of the vessels on the registry of Canada, as at the end of each of the calendar years from 1922 to 1931, are given by provinces in Table 59. In 1931 there were 8,905 vessels with a tonnage of 1,427,648.

59.—Number and Net Tonnage of Vessels on the Registry of Shipping of Canada, by Provinces, Dec. 31, 1922-31.

NOTE.—The figures in this table are supplied by the courtesy of the Department of Marine.

Province.	1922.		1923.		1924.		1925.		1926.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
P. E. Island.....	138	9,615	133	9,600	133	9,078	131	8,997	127	8,556
Nova Scotia.....	1,523	146,329	1,505	140,641	1,488	134,991	1,475	135,761	1,452	134,539
New Brunswick...	866	39,107	873	38,798	808	34,644	818	33,318	816	33,002
Quebec.....	1,314	459,207	1,298	443,177	1,305	425,852	1,341	438,253	1,369	447,889
Ontario.....	1,693	316,524	1,677	317,850	1,649	314,297	1,667	326,571	1,702	387,036
Manitoba.....	91	10,340	93	10,207	93	10,207	93	10,207	94	10,321
Saskatchewan...	4	813	6	486	6	486	6	486	6	486
British Columbia	2,006	259,103	2,101	268,489	2,198	289,549	2,373	327,524	2,618	325,190
Yukon Territory.	6	486	8	1,632	9	1,916	9	1,916	9	1,916
Totals.....	7,641	1,241,524	7,694	1,230,880	7,689	1,221,020	7,913	1,233,033	8,193	1,348,935

59.—Number and Net Tonnage of Vessels on the Registry of Shipping of Canada, by Provinces, Dec. 31, 1922-31—concluded.

Province.	1927.		1928.		1929.		1930.		1931.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
P. E. Island.....	133	8,581	132	8,549	134	8,370	130	8,351	129	10,996
Nova Scotia.....	1,412	129,482	1,436	126,428	1,471	127,080	1,478	119,055	1,434	112,891
New Brunswick..	829	33,077	828	33,395	885	34,031	919	38,350	983	39,766
Quebec.....	1,368	456,092	1,373	502,224	1,265	506,594	1,262	495,017	1,277	506,782
Ontario.....	1,724	397,987	1,746	367,007	1,759	347,531	1,775	392,708	1,771	378,925
Manitoba.....	96	10,661	98	10,684	103	11,051	105	11,185	110	11,461
Saskatchewan....	6	486	6	486	6	486	6	486	6	486
British Columbia	2,872	327,984	3,012	313,651	3,257	335,810	3,203	361,328	3,178	361,306
Yukon Territory..	14	3,650	14	3,650	19	4,543	20	5,584	17	5,031
Totals.....	8,454	1,368,000	8,645	1,366,074	8,899	1,375,493	8,898	1,432,064	8,905	1,427,648

Section 6.—The Department of Marine.¹

Administration of the general shipping interests of Canada is in the hands of the Dominion Department of Marine. It deals with: (1) administration of the Canada Shipping Act and other Acts of the Dominion Government relating to marine transportation; (2) pilotage; (3) the construction and maintenance of lighthouses, lightships, fog alarms, buoys and beacons; (4) ports, harbours, piers, wharves and breakwaters; (5) the Meteorological Service of Canada; (6) relief of distressed seamen; (7) hydrographic, tidal and current surveys; (8) inquiries into the causes of shipwrecks and casualties, and the collection of wreck statistics; (9) life-saving service; (10) the inspection of steamboats; (11) the construction and maintenance of the St. Lawrence River ship channel; (12) marine signal service; (13) ice breaking and (14) the administration of Government radiotelegraph stations and the supervision of private stations in Canada. The net revenue of the Department for the fiscal year ended Mar. 31, 1931, was \$981,061, and the expenditure for the same period was \$27,486,720.

A summary statement of the revenue and expenditure of the Department of Marine is given for each fiscal year since Confederation in Table 60, while details for the six years from 1926 to 1931 are presented in Tables 61 and 62.

¹Revised by E. Hawken, Assistant Deputy Minister, Department of Marine.

60.—Total Revenue and Expenditure of the Department of Marine, fiscal years ended June 30, 1868-1906, and Mar. 31, 1907-31.

Fiscal Year.	Revenue.	Expend- iture.	Fiscal Year.	Revenue.	Expend- iture.	Fiscal Year.	Revenue.	Expend- iture. ²
	\$	\$		\$	\$		\$	\$
1868.....	71,811	371,071	1889.....	99,940	1,023,801	1910.....	156,957	4,692,771
1869.....	75,351	360,900	1890.....	115,507	807,417	1911.....	154,492	4,197,420
1870.....	71,490	367,189	1891.....	104,248	885,410	1912.....	185,579	4,911,141
1871.....	70,254	389,537	1892.....	106,582	861,427	1913.....	185,725	5,213,223
1872.....	79,324	518,958	1893.....	107,390	898,720	1914.....	217,034	5,828,027
1873.....	114,756	706,818	1894.....	165,870	905,654	1915.....	795,550 ³	6,202,908
1874.....	108,350	845,151	1895.....	99,557	895,828	1916.....	461,457	5,621,011
1875.....	91,235	844,586	1896.....	103,012	793,634	1917.....	574,498	4,768,784
1876.....	107,984	970,146	1897.....	111,009	867,773	1918.....	228,812	4,361,498
1877.....	105,907	820,054	1898.....	120,602	856,192	1919.....	396,779	4,459,165
1878.....	100,850	786,156	1899.....	126,528	1,102,602	1920.....	303,002	38,301,080
1879.....	84,144	755,359	1900.....	130,229	982,562	1921.....	396,617	26,038,902
1880.....	91,942	723,391	1901.....	144,919	1,029,925	1922.....	701,497	20,419,883
1881.....	108,304	761,731	1902.....	148,607	1,501,619	1923.....	574,567	13,156,182
1882.....	109,125	774,832	1903.....	139,876	1,671,495	1924.....	593,722	13,160,680
1883.....	104,333	825,011	1904.....	123,507	2,150,940	1925.....	416,864	13,636,145
1884.....	118,080	927,242	1905.....	121,815	4,747,723	1926.....	479,475	16,776,939
1885.....	101,263	1,129,901	1906.....	139,475	5,066,253	1927.....	629,761	10,270,674
1886.....	91,885	980,121	1907 ¹	106,260	3,637,630	1928.....	615,089	15,368,692
1887.....	102,238	917,557	1908.....	177,591	5,374,774	1929.....	671,224	18,167,193
1888.....	99,920	883,251	1909.....	169,502	5,498,531	1930.....	810,530	23,508,502
						1931.....	981,061	27,486,719

¹Nine months. ²The increase in expenditure in 1920 and later years was due to the shipbuilding program and to loans to harbour commissions. ³Includes \$493,000 from sale of steamer *Earl Grey* to the Russian Government.

61.—Revenue of the Department of Marine, by Sources, fiscal years ended Mar. 31, 1926-31.

Source of Revenue.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Harbours, piers and wharves.....	112,114	117,077	57,803	45,878	53,281	54,668
Earnings of Dominion steamers.....	3,553	11,875	5,909	—	376	20
Steamboat inspection fund.....	123,380	135,131	127,852	136,932	131,356	144,332
Examination, masters and mates.....	4,434	4,281	5,002	5,181	5,126	4,733
Casual revenue, sundries.....	53,067	80,724	98,659	121,990	104,860	94,323
Radio revenue.....	51,368	69,539	64,219	81,760	90,728	75,753
Fines and forfeitures.....	795	2,924	4,225	3,728	5,228	1,119
Wireless amateur licence fees.....	129,101	206,243	249,693	271,526	407,762	468,093
Wireless operators' examination fees.....	472	427	480	361	421	605
Miscellaneous.....	1,191	1,205	1,247	1,283	2,067	1,427
Capital account.....	—	335	—	2,585	9,325	135,988
Totals.....	479,475	629,761	615,083	671,224	810,530	981,061

62.—Expenditure of the Department of Marine, fiscal years ended Mar. 31, 1926-31.

Item of Expenditure.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Ocean and River Service—						
Investigation into wrecks.....	5,374	5,832	5,749	4,921	4,754	5,979
Registration of shipping.....	2,444	2,163	2,573	2,162	2,402	2,948
Removal of obstructions.....	3,143	95,443	1,771	1,095	223	3,498
Life-saving service.....	83,854	62,668	62,919	53,380	60,478	55,000
Dominion steamers and icebreakers.....	1,492,079	1,497,106	1,625,501	1,954,580	1,647,499	1,752,322
Schools of navigation.....	6,596	7,752	7,288	7,816	7,174	7,300
Cattle inspection.....	3,877	4,000	3,709	3,644	3,671	3,644
Wrecking plants (subsidy).....	35,000	35,000	45,000	45,000	45,000	70,000
Hudson Bay patrol.....	—	—	1,021,513	289,464	12,989	—
Examination, masters and mates.....	18,111	18,930	19,303	20,000	20,461	21,600
Hydrographic survey.....	250,892	266,480	310,699	386,739	508,246	565,722
New steamer for hydro survey.....	—	—	—	—	—	4,200
Radio telegraph.....	492,316	439,804	475,204	735,004	829,499	764,000
Radio reception.....	—	111,782	154,543	166,776	225,265	221,600
Radio broadcast commission.....	—	—	—	—	20,603	—
Three new steamers.....	—	—	—	—	173,000	—
Icebreaker, Hudson bay.....	—	—	—	—	791,299	135,355
Icebreaker, St. Lawrence river.....	—	—	—	—	747,028	12,100
Other items of expenditure.....	4,238	33,848	13,333	12,675	25,741	10,879
Totals.....	2,397,924	2,580,808	3,749,105	3,683,256	5,125,332	3,637,100
Lighthouse and Coast Service—						
Agencies and contingencies.....	217,942	212,635	210,048	223,280	227,064	228,680
Administration of pilotage.....	102,902	82,624	121,744	141,657	118,099	111,099
Salaries and allowances to lightkeepers.....	649,783	674,581	676,080	718,777	733,977	733,977
Maintenance and repairs to lighthouses, etc.....	814,305	830,772	893,182	889,223	915,978	953,800
Construction of lighthouses, etc.....	411,642	511,402	597,633	683,012	684,482	1,166,844
Breaking of ice.....	30,000	30,000	30,000	30,000	58,000	44,000
Patrol in B.C. and Northern waters.....	9,350	—	—	—	—	—
Signal service.....	99,990	99,765	102,938	109,994	107,947	103,680
New steamer.....	—	—	94,968	—	—	—
Other items of expenditure.....	19,980	24,179	20,167	16,957	25,719	49,630
Totals.....	2,355,893	2,465,958	2,746,761	2,812,900	2,871,266	3,391,820
Public Works, chargeable to Capital—						
Ship channel, river St. Lawrence.....	1,596,754	1,605,049	1,921,903	1,894,912	2,753,019	3,462,950
Quebec harbour improvement.....	—	—	—	—	1	—
Sorel shipyard.....	143,634	151,316	95,562	162,019	—	—
Allowances.....	—	—	—	6,625	2,438	—
St. Lawrence River dams.....	—	—	—	—	405,589	397,411
Provisions for Dredge 8.....	—	—	—	—	—	1,470
Totals.....	1,740,388	1,756,366	2,017,464	2,063,556	3,161,046	3,861,860
Scientific Institutions—						
Meteorological Service—						
Totals.....	255,129	243,233	270,276	287,908	316,707	367,600
Steamboat inspection.....	118,843	121,961	131,065	141,485	140,253	143,700
Departmental salaries.....	388,564	385,700	382,293	392,453	397,851	402,400
Contingencies.....	45,881	44,530	53,426	54,798	55,205	69,800
Bonus and salary revision.....	32,000	—	102,659	—	—	—
Gratuities.....	3,511	6,118	6,487	2,634	4,842	4,400
Retirement Act.....	—	—	—	—	—	—
Superannuation No. 4.....	20,980	—	—	—	—	—
Montreal Harbour Commission.....	6,245,000	1,035,000	2,180,000	3,110,000	4,336,000	2,291,000
Quebec Harbour Commission.....	479,000	903,000	2,160,000	2,888,000	2,821,000	3,491,000
Vancouver Harbour Commission.....	2,688,000	728,000	1,564,000	1,596,000	345,000	2,802,000
Halifax Harbour Commission.....	—	—	—	30,000	1,272,000	3,539,000
Chicoutimi Harbour Commission.....	—	—	—	500,000	815,000	846,000
Saint John Harbour Commission.....	—	—	—	602,000	1,711,000	1,094,000
Three Rivers Harbour Commission.....	—	—	—	—	136,000	1,543,000
Miscellaneous and unforeseen.....	5,825	—	5,156	2,200	—	1,200
Grand Totals.....	16,776,939	10,270,674	15,368,693	18,167,190	23,508,502	27,486,100

¹Included with "Ship channel, river St. Lawrence" for 1930 and 1931.

Steamboat Inspection.—The Steamboat Inspection Service of Canada, maintained under the authority of the Department of Marine, comprises the Board of Steamboat Inspection, together with staffs of inspectors at the principal ocean and inland ports. The Board decides on the standards required of all vessels coming under its jurisdiction. These must be attained by all ships given official warrant as to their seaworthiness and mechanical condition. Further, the Board grants certificates of competency to engineers of steamboats.

A table showing the number and tonnage of steamboats inspected during the fiscal year ended Mar. 31, 1931, follows:—

63.—Steamboat Inspection, fiscal year ended Mar. 31, 1931.

Division.	Vessels Inspected.				Vessels not Inspected.	
	Vessels Registered or Owned in the Dominion.		Vessels Registered or Owned Elsewhere.			
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
Halifax.....	133	119,785	16	64,250	9	20,719
Saint John.....	71	72,291	2	7,652	40	25,167
Quebec.....	73	35,210	—	—	8	2,241
Sorel.....	103	60,111	—	—	20	8,157
Montreal.....	109	175,422	15	48,279	105	10,749
Kingston.....	104	124,204	4	377	8	8,872
Toronto.....	203	290,979	53	79,106	25	41,727
Midland.....	73	83,527	3	65	20	8,473
Collingwood.....	90	34,944	—	—	21	10,739
Port Arthur.....	88	76,435	—	—	73	4,563
Vancouver.....	262	148,103	14	126,405	92	30,955
Victoria.....	74	78,794	14	32,644	16	13,077
Totals.....	1,383	1,299,805	121	358,778	437	185,439

Division.	Vessels Subject to Inspection when in Commission.		Vessels Added to the Dominion Register.		Vessels Lost, Broken Up or Destroyed.	
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
Halifax.....	158	204,754	2	3,847	2	4,803
Saint John.....	113	105,110	4	5,238	2	753
Quebec.....	81	37,451	7	4,173	4	623
Sorel.....	123	68,268	3	379	1	73
Montreal.....	229	234,450	10	19,315	—	—
Kingston.....	116	133,453	5	9,551	—	—
Toronto.....	281	411,812	1	149	4	1,555
Midland.....	96	92,065	3	12,928	5	138
Collingwood.....	111	45,733	6	6,557	—	—
Port Arthur.....	161	80,998	5	304	6	2,490
Vancouver.....	368	305,463	10	14,460	4	573
Victoria.....	104	124,515	3	11,093	2	100
Totals.....	1,941	1,844,072	59	87,994	30	11,108

Fees collected during the year on account of inspections totalled \$134,719 and those on account of examinations of engineers amounted to \$1,866, giving a combined total revenue collected by inspectors of \$136,585.

Seamen Shipped and Discharged.—Table 64 shows, for each year from 1908 to 1930, the number of seamen shipped and discharged at Canadian ports under the provisions of the Canada Shipping Act (R.S.C., 1927, c. 186).

64.—Number of Seamen Shipped and Discharged at Canadian Ports, calendar years 1908-30.

Year.	Seamen Shipped.	Seamen Discharged.	Year.	Seamen Shipped.	Seamen Discharged.
1908.....	18,013	11,542	1919.....	18,208	13,640
1909.....	20,502	11,573	1920.....	22,569	19,719
1910.....	16,735	11,069	1921.....	18,444	17,103
1911.....	13,748	11,301	1922.....	25,689	24,558
1912.....	13,708	11,290	1923.....	31,407	30,192
1913.....	16,975	13,749	1924.....	30,687	29,018
1914.....	18,987	14,989	1925.....	31,772	28,472
1915.....	22,797	14,319	1926.....	31,869	27,413
1916.....	20,902	16,689	1927.....	28,137	25,863
1917.....	16,998	14,145	1928.....	28,748	25,763
1918.....	16,516	12,930	1929.....	31,374	29,483
			1930.....	26,983	25,670

Wrecks and Casualties.—The statement in Table 65, supplied by the Department of Marine, applies to vessels of every nationality in respect of wrecks and casualties in Canadian waters, and to Canadian vessels in respect of wrecks and casualties in other waters. The returns in some years cover wrecks and casualties of previous years. Statistics of marine danger signals appear in Table 66.

65.—Canadian Wrecks and Casualties, years ended June 30, 1901-17, and calendar years 1918-30.

NOTE.—For details of the years 1870-1900, see Canada Year Book, 1911, p. 381.

Year.	Casualties.	Net Tonnage.	Lives Lost.	Stated Damages.	Year.	Casualties.	Net Tonnage.	Lives Lost.	Stated Damages.
	No.	tons.	No.	\$		No.	tons.	No.	\$
1901.....	136	47,181	126	285,782	1916.....	308	242,996	67	1,377,442
1902.....	222	105,814	132	835,916	1917.....	239	715,384	152	4,850,145 ²
1903.....	237	162,297	32	409,991	1918.....	226	312,928	402 ³	1,818,895
1904.....	192	81,143	9	489,699	1919.....	240	205,720	100	1,808,690
1905.....	178	79,588	15	621,267	1920.....	227	222,928	28	1,643,825
1906.....	220	139,586	149	573,420	1921.....	260	588,503	38	1,809,328
1907.....	317	131,441	55	672,466	1922.....	277	604,423	27	451,312
1908.....	307	120,269	54	1,390,891	1923.....	376	480,713	50	3,184,749
1909.....	543	189,906	24	1,131,966	1924.....	224	215,470	54	4,355,217
1910.....	321	211,565	101	1,569,580	1925.....	298	305,798	53	3,317,020
1911.....	271	122,619	48	942,093	1926.....	300	293,310	91	4,630,267
1912.....	293	269,569	59	1,053,768	1927.....	434	566,011	128	6,879,825
1913.....	275	270,905	160	1,963,870	1928.....	504	558,251	64	5,418,236
1914.....	255	210,368	1,083 ¹	4,983,775	1929.....	451	459,394	12	4,740,620
1915.....	280	214,036	70	1,459,012	1930.....	551	447,169	66	3,077,009

¹Includes 1,042 lives lost in the *Empress of Ireland* disaster. ²Excluding damage to cargo estimated at £4,310,350. ³Includes 328 lives lost in the *Princess Sophia* disaster.

66.—Comparative Statement of Marine Danger Signals, fiscal years ended Mar. 31, 1920-31.

NOTE.—Besides the following, there were, in 1931: 49 lighted spar-buoys, floats and dolphins; 5,587 unlighted buoys; 838 unlighted tripods, floats, dolphins, spindles and beacons, and 2,658 stakes, bushes and balises.

Description.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Lights.....	1,578	1,598	1,602	1,596	1,627	1,654	1,675	1,725	1,771	1,815	1,855	1,912
Lightships.....	10	9	9	9	10	10	10	11	11	11	11	11
Lightboats.....	1	—	—	—	—	—	—	—	—	—	—	—
Lightkeepers.....	1,120	1,130	1,118	1,105	1,119	1,134	1,143	1,156	1,179	1,192	1,207	1,227
Fog whistles.....	9	8	8	8	9	8	8	8	6	8	8	8
Sirens.....	1	1	1	1	1	1	1	2	2	2	2	2
Diaphones.....	131	134	135	138	140	146	146	147	153	158	162	165
Fog bells.....	32	33	35	35	35	35	36	35	36	38	38	38
Hand fog horns.....	149	148	148	148	147	149	148	148	151	147	151	152
Hand fog bells.....	4	4	4	4	4	4	4	5	4	4	4	4
Gas, whistling and bell buoys.....	336	343	345	349	359	374	374	380	401	411	425	429
Whistling buoys.....	31	30	29	30	30	32	34	36	38	40	40	40
Bell buoys.....	89	90	90	92	95	98	99	101	104	111	119	119
Submarine bells.....	12	11	7	7	7	7	6	6	6	4	4	4
Fog guns and bombs.....	7	7	7	7	7	6	6	6	6	5	5	5
Fog horns.....	1	1	1	—	—	—	—	—	—	—	—	—
Fog alarm stations only.	13	13	13	12	12	13	13	13	13	13	13	13

Section 7.—Merchant Marine Services Operated by the Canadian Government.¹

During the closing years of the war the Dominion Government, realizing the need for a mercantile fleet, not only as a means of developing Canada's export trade but also as a means of assisting the National Railways and of providing employment, placed orders with Canadian shipbuilding firms for the construction of 63 steel cargo vessels of six different types. These vessels were intended primarily to co-operate with British shipping in supplying the necessities of war, as well as to provide in times of peace the means of carrying abroad the products of Canada's farms, forests, mines and factories, without which Canada could not hope to take full advantage of the opportunity of expanding her export trade. Prior to Dec. 31, 1919, 19 vessels had been delivered by the builders. Additions were subsequently made to the fleet until the total fleet, as at Dec. 31, 1924, numbered 57 vessels of a total deadweight tonnage of 353,450. Through sale and the loss of three vessels the fleet was reduced to 30 vessels with a deadweight tonnage of 239,170 at Dec. 31, 1930. With regard to ownership and operation, a separate company was organized for each vessel and the capital stock of each is owned by the Canadian Government Merchant Marine, Ltd. Under an operating agreement with each of these companies, the Canadian Government Merchant Marine, Ltd., operates all the steamers and keeps a separate account for each company. Promissory notes have been given to the Minister of Finance and Receiver-General for the total capital stock of each vessel, with interest payable at 5½ p.c. per annum.

Early operations proved profitable: a surplus of \$1,056,767 was shown for the year ended Dec. 31, 1919 and a surplus of \$1,293,525 for the year ended Dec. 31, 1920 (without provision for interest charges). Subsequent years, however, have shown the effects of the depression in the shipping industry, and annual

¹ Revised under the direction of Geo. W. Yates, Assistant Deputy Minister, Department of Railways and Canals, by R. B. Teakle, Vice-President in Charge of Canadian National Steamships, Montreal.

deficits of \$8,047,635, \$9,649,479, \$9,368,670, \$8,836,609, \$7,667,513, \$6,687,221, \$7,086,940, \$7,545,525, \$5,928,758 and \$5,844,757 are shown for the years 1921 to 1930 respectively. These figures include interest and depreciation assessed on the original high cost of the vessels.

In conformity with the Canada-West Indies Trade Agreement Act of 1920 (16-17 Geo. V, c. 16), the Dominion Government has provided direct steamship services to the West Indies through the medium of Canadian National (West Indies) Steamships, Ltd. The service is provided by a fleet of twelve vessels of a total deadweight tonnage of 60,592. Five of these boats, known as the "Lady" ships, were specially constructed for passenger service on this route, while the remaining seven vessels previously formed part of the Canadian Government Merchant Marine fleet, and were taken over by the Canadian National (West Indies) Steamships, Ltd., for operating purposes, under entrusting agreements with the companies which respectively owned such ships. The investment in vessels at Dec. 31, 1930, amounted to \$9,804,715, mainly made up of the construction cost of the "Lady" ships and the present day valuation of the other seven ships, together with the cost of conversion for use in the West Indies service of three of the latter.

The first annual report of the Canadian National (West Indies) Steamships Ltd., is for the year ended Dec. 31, 1929, during which operating revenues amounted to \$3,332,683 and operating expenses to \$3,780,524, or a net operating loss of \$447,841. After debiting \$227,315 for depreciation and \$442,739 representing interest on notes and advances, the total book loss for the year was \$1,117,895.

The second annual report of the same company, and for the year ended Dec. 31, 1930, shows operating revenues amounting to \$3,792,694 and operating expenses to \$4,315,831, or a net operating loss of \$523,137. Taking into account \$288,999 for depreciation and \$550,519 for interest on notes, etc., the total book loss was \$1,362,655 for the year.

PART X.—TELEGRAPHS.

Section 1.—Telegraph Statistics.¹

The Toronto, Hamilton and Niagara Electro-Magnetic Telegraph Co., organized by a group of Toronto men, was the first to establish an electric telegraph service in the pre-Confederation province of Canada. It was formally organized on Oct. 22, 1846, and its Toronto-Hamilton line was opened on Dec. 19 of the same year. In January, 1847, the line was completed to Queenston, whence there was a connecting line to Buffalo. The Montreal Telegraph Co. commenced the construction of a line to Toronto in February, 1847, and began actual operation between the two cities on Aug. 3 of the same year. By the end of the year it had 540 miles of wire in use, 9 offices and 35 employees, and had sent out 33,000 messages. Both the Montreal and the Toronto companies were incorporated by special Acts at the 1847 session of the Legislature. In 1852 the Toronto, Hamilton and Niagara Co. sold out to the Montreal company.

¹ Revised by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics, which issues an annual report dealing with telegraph statistics.

The British North American Electrical Association was also formed in 1847, with the object of connecting Quebec with the Maritime Provinces, but for some years its line went no farther than Rivière du Loup, though it was finally extended to Woodstock, N.B., where it connected with the American Telegraph Co., which already had lines in New Brunswick. The New Brunswick Telegraph Co. built a line connecting Saint John with the Maine lines in 1848, and in the following year extended it to Amherst, N.S., where it connected with the Nova Scotia line, bringing Halifax for the first time into telegraphic communication with New York.

The movement for consolidation of services, so evident in the Canadian railways, was also active among the telegraph companies. Thus the Montreal company bought out the Toronto, Hamilton and Niagara Telegraph Co., the Montreal and Bytown Telegraph Co. and the Grand Trunk Telegraph Co., and maintained a strenuous competition with the Dominion Telegraph Co., organized in 1868. In 1881, however, the conflicting interests were consolidated under lease by the Great North Western Telegraph Co., this move effecting great economies in operation. A few years later, however, the Canadian Pacific Railway Co. established competing lines, and by September, 1886, had opened 366 offices in Ontario, Quebec and Western Canada.

The Dominion Government Telegraph Service was commenced with the object of furnishing rapid communication in outlying districts where the amount of business was so small that commercial companies would not enter the field, but where the public interests required that there should be communication. Its services are especially useful in connection with the signal and other stations established by the Department of Marine along the north shore of the Gulf of St. Lawrence, and in the Maritime Provinces and British Columbia. On Mar. 31, 1931, the Government Telegraph Service comprised 9,300 $\frac{1}{4}$ miles of pole line, 11,297 $\frac{1}{4}$ miles of wire, 369 $\frac{1}{4}$ knots of cable and 756 offices. Details will be found in the Annual Report of the Minister of Public Works.

Telegraph Systems.—The Canadian telegraph systems are composed of lines owned by the Dominion Government and by chartered railway and telegraph companies. The lines previously owned by the Great North Western Telegraph Co., the Grand Trunk Pacific Telegraph Co., the Canadian Northern Railway Co. and the National Transcontinental Railway are now owned by the Government and are operated by the Canadian National Telegraph Co. (formerly Great North Western Telegraph Co.). The Dominion Government Telegraph Service operates the line to the Yukon and other lines in outlying districts.

The Canadian system, in proportion to population, is one of the most extensive in the world, and is operated under considerable climatic and geographic disadvantages. In the operation of railways and in the receipt and dispatch of market and press reports its services to the nation are invaluable.

Telegraph Statistics.—A brief summary table giving the more important figures of the operation of Canadian telegraphs from 1920 to 1930 follows. For details see the Bureau of Statistics' Annual Report on Telegraph Statistics.

67.—Summary Statistics of All Canadian Telegraphs for the calendar years 1920-30.

Year.	Gross Revenue.	Operating Expenses.	Net Operating Revenue.	Pole Line Mileage.	Wire Mileage.	Em- ployees.	Offices.	Messages, Land.	Cable-grams. ³	Money Trans-ferred.
	\$	\$	\$	miles.	miles.	No.	No.	No.	No.	\$
1920	11,337,428	9,589,982	1,747,446	52,393	238,866	7,508	4,825	15,589,711	1,162,204	7,045,600
1921	11,310,989	9,734,299	1,576,690	52,828	250,802	7,818	4,901	15,013,993	1,154,787	5,150,900
1922	11,018,762	9,846,425	1,172,337	53,096	262,343	8,500	4,762	15,271,410	4,736,204	4,404,497
1923	11,417,284	9,931,815	1,485,439	53,383	270,782	8,275	4,961	16,150,106	5,055,115	5,326,332
1924	10,930,020	9,603,620	1,326,400	54,742	268,632	8,909	4,945	15,460,811	5,790,582	6,428,080
1925	11,520,322	9,681,200	1,839,122	51,726 ¹	284,121	7,224 ²	4,664	14,460,988	6,104,025	6,680,545
1926	12,143,388	10,166,040	1,977,348	52,612 ¹	305,933	6,755 ²	4,801	14,934,683	6,421,673	7,790,127
1927	12,990,549	10,600,412	2,390,137	52,731 ¹	323,539	7,338 ²	4,885	15,564,067	6,664,771	9,241,814
1928	14,740,641	11,647,063	3,093,578	53,777 ¹	337,971	7,639 ²	4,909	16,857,220	6,861,195	9,776,090
1929	16,256,441	12,580,364	3,666,077	52,835 ¹	360,883	8,056 ²	4,766	18,029,973	5,210,926	11,295,872
1930	14,264,997	11,791,291	2,473,706	52,824 ¹	371,747	7,331 ²	4,661	15,558,224	6,745,220	10,213,475

¹Excluding U.S. lines of Canadian National Telegraphs.²Excluding railway employees.³Including transatlantic cablegrams relayed between Canso, N.S., and the United States.

Table 68 gives figures of telegraph operation and line and wire mileage of various companies for the years 1926 to 1930. Statistics of the Halifax and Bermuda Cable Co., the Canadian Marconi Wireless Telegraph Co. and the Pacific Cable Board are not included.

68.—Statistics of Chartered Telegraph Companies for the calendar years 1926-30.

Company.	Yrs.	Miles of Line.	Miles of Wire.	Number of Messages. ¹	Number of Offices. ³
Canadian National Telegraph Co. ⁴	1926	23,031	129,042	7,538,301	1,922
(Formerly Great North Western Telegraph Co.)	1927	23,049	136,143	7,875,550	1,940
	1928	23,412	141,523	8,238,893	1,940
	1929	24,565	166,121	9,488,208	2,130
	1930	24,828	169,163	8,570,571	2,130
Canadian Pacific Railway Co.....	1926	15,686	141,924	5,863,568 ²	1,510
	1927	15,775	151,329	6,072,459 ²	1,560
	1928	16,429	160,287	6,858,597 ²	1,630
	1929	16,794	167,664	7,259,205 ²	1,640
	1930	16,919	176,236	6,216,491 ²	1,630
Western Union.....	1926	2,751	18,493	779,188	200
	1927	2,721	18,179	832,312	200
	1928	2,721	18,129	881,245	190
	1929	1,178	10,910	414,506	190
	1930	1,177	10,991	414,506	190
Temiskaming and Northern Ont. Ry. Commission	1926	422	2,009	130,770	10
	1927	449	3,270	135,613	10
	1928	450	3,288	153,842	10
	1929	450	3,288	128,852	10
	1930	549	3,513	116,934	10
The North American Telegraph Co., Ltd.....	1926	—	445	76,826	10
	1927	—	445	78,531	10
	1928	—	445	84,427	10
	1929	—	445	87,514	10
	1930	—	445	78,682	10
Dominion Government Telegraph Service.....	1926	10,722	14,020	522,796	1,000
	1927	10,737	14,173	536,842	1,000
	1928	10,765	14,299	535,605	1,000
	1929	9,848	12,455	537,080	800
	1930	9,351	11,399	495,562	700

¹Cablegrams not included. The total in Table 67 includes messages handled by the Marconi Wireless Telegraph Co. ²Not including press messages. ³The total in Table 67 includes offices of wireless and cable companies.

⁴Statistics of the Grand Trunk Pacific Telegraph Company have been included with the Canadian National up to 1927 and the two were amalgamated in 1928. ⁵Included with Canadian National.

Submarine Cables.—Six transoceanic cables have termini in Canada—five of them on the Atlantic and one on the Pacific coast. The date on which the cable was first shown to be of commercial value was in 1866, and up to the present its use has greatly increased. The Atlantic cables are controlled by English and American interests. The Pacific cable, from Canada to Australia and New Zealand, has been in operation since 1902, and has been owned by a partnership of the Governments of Great Britain, New Zealand, Australia and Canada. As a result of the recommendation of the Imperial Wireless and Cable Conference of 1928, in view of increased wireless competition, it was decided to dispose of the Pacific and West Indian Islands cable systems to the Imperial and International Communications Company, a company formed to take over all Empire-owned cables and lease the Empire-owned beam wireless systems. The necessary legislation was passed by Great Britain in February, 1929, and by Canada in June, 1929, and Canada received \$591,662 as her share of the proceeds of the sale.

Section 2.—Radio Service.¹

Radio.—Under the Radiotelegraph Act (c. 195, R.S.C., 1927), the administration of radio within the Dominion is vested in the Department of Marine under the jurisdiction of the Hon. Alfred Duranleau, Minister. The matter of Dominion jurisdiction has been questioned by certain of the provinces from time to time, but on Feb. 9, 1932, the Judicial Committee of the Imperial Privy Council ruled that the control and regulation of radio communication is within the jurisdiction of the Dominion Parliament. This decision is a very important one and will do much to further the nationalization of radio broadcasting in Canada. A form of nationalization was recommended by the Aird Commission on Radio Broadcasting in 1929, but until the recent Privy Council decision, the way was not completely open for nationalization. Following that decision the Government took immediate action and, on Feb. 16, 1932, the Prime Minister announced the establishment of a Parliamentary committee to investigate the Canadian radio broadcasting industry and “advise and recommend a complete technical scheme of radio broadcasting for Canada, so designed as to ensure from Canadian sources as complete and satisfactory a service as the present development of radio science will permit”. The Aird Commission’s report was given consideration by the committee. As a result of the report of the committee the Prime Minister sponsored a Bill in the House of Commons to establish a Canadian Radio Broadcasting Commission of three members, to control a nationalized system, on May 18, 1932. The House unanimously supported the measure.

Historical.—The first radio communication to be established in Canada was between Chateau Bay, P.Q., the terminus of the Government north shore telegraph line, on the north side of Belle Isle straits, and Belle Isle, Newfoundland. The stations were erected by the Marconi Wireless Telegraph Co. of London, England, for the Telegraph Division of the Department of Public Works, and they were placed in commission on Oct. 22, 1901. The purpose of the stations was to replace the existing cable between the island and the mainland which was continually being interrupted by ice. The two stations carried on successful communication until they were replaced by the establishment of a regular chain of coast stations, along the east coast and gulf of St. Lawrence, by the Department of Marine, in 1904, 1905 and 1906.

¹ Revised by Commander C. P. Edwards, O.B.E., Director, Radio Service, Department of Marine, Ottawa.

In December, 1901, Mr. Marconi carried out his historic experiment of transmitting the first wireless signals across the Atlantic and, meeting with opposition from the cable interests who enjoyed a monopoly of communication in Newfoundland, he was encouraged to continue these experiments in Canada. A site at Table Head, Glace Bay, Cape Breton island, was placed at his disposal by the Dominion Coal Company, and negotiations were entered into with the Dominion Government for a subsidy to assist in establishing the transatlantic station. As a result of the negotiations, an agreement was entered into whereby his company was subsidized to the extent of \$80,000 and work on construction of the station was immediately placed in hand. The station was completed and the first transatlantic message from the American Continent to Europe was transmitted by the station on Mar. 30, 1903, to the *London Times*. In October, 1907, the station was brought into commercial operation, and a limited service inaugurated with a corresponding station operated by the English Marconi Co. at Clifden, Ireland. Full commercial service went into effect on Feb. 3, 1908. In 1926, following the development of Marconi's short-wave beam system, a complete new transatlantic station on the new system was established at Drummondville, P.Q., and on Oct. 26, 1926, the Glace Bay transatlantic station was closed down and taken over by that at Drummondville.

The present coast station system of 65 stations consists of three chains—one extending from Vancouver to Prince Rupert on the Pacific, another from Port Arthur to the Atlantic ocean in the east, and the third from Port Churchill to Resolution island at the entrance to the Hudson strait. The Great Lakes' coast stations connect with those of the east coast, which, in turn, connect with the Hudson Bay route chain. There is no direct radio connection between the Great Lakes and the Pacific Coast chains.

Of the above stations, 17 on the east coast and Great Lakes are operated by the Canadian Marconi Co. under contract to the Department, and the balance of 48 on the east coast, west coast and Hudson bay and strait are operated directly by the Department. Twice daily, at advertised hours, a number of these stations broadcast messages to shipping containing such important information as weather forecasts, storm warnings, reports in connection with floating derelicts, ice and other dangers to navigation. In the interests of navigators, to whom accurate time is essential in computing observations on celestial bodies, three Canadian coast stations—two on the west coast and one on the east coast—transmit time signals at advertised hours daily.

On the east coast, a comprehensive radiotelephone service to fishermen is in operation in which Louisburg, VAS, Halifax Lightship, VGX, and the C.G.S. *Arras*, CGFD (during the summer months) participate. The messages broadcast twice daily include weather forecasts, storm warnings, a synopsis of information in regard to the market prices of fish, the amount of bait available at various points, and any other outstanding item of interest to fishermen generally. Station CFBO, Saint John, N.B., also broadcasts weather forecasts for fishermen by voice twice daily. The transmissions from this network of stations provide reception at any point on the Atlantic seaboard as well as on the banks fished by Canadian vessels.

Broadcasting in Canada first commenced with test programs carried out by the Canadian Marconi Company in Montreal during the winter evenings of 1919. Regular organized programs were commenced in December, 1920, by the same company, on a wavelength of 1,200 metres.

In April, 1922, the establishment of broadcasting stations on a general scale commenced, 52 private, commercial and amateur broadcasting licences being granted during the fiscal year 1922-23. During the fiscal year 1930-31, 67 broadcasting stations were in operation in the Dominion, and the number of licensed receiving sets was 523,100. The licence fee for a broadcasting station is \$50 per annum, and for a receiving set \$1 per annum.²

A trans-oceanic commercial radio beam service is carried out by the Drummondville, P.Q., station, which maintains communication with Great Britain, Australia and the United States.

On the west coast of Vancouver island the different services of the Department of Marine are co-ordinated and, as a result, line telephone, land patrol, sea patrol and the lifeboat service were all linked together by radio to provide an efficient life-saving organization. In addition to a direction-finding station, three radiophone stations are maintained—two at lighthouses and one at a life-saving station—thus providing a network of communication assuring instant assistance in case of disaster.

In the North, for the benefit of trading posts, settlers, miners, etc., within range, a limited broadcast service by voice, consisting of press and personal messages, is undertaken at Coppermine, Chesterfield Inlet, Port Churchill and the R.C.M.P. Schooner *St. Roch*, each station maintaining bi-weekly schedules.

Direct communication is maintained between the Department's short wave station at Ottawa and Cape Hopes Advance, the control station of the Hudson Bay chain. This contact at times assumes a humane aspect: symptoms of any sick person attached to or residing in the vicinity of any northern station are transmitted to Ottawa and passed to the Department of Health where treatment is prescribed and transmitted to the station concerned. So far excellent results have been obtained in this respect.

Some years ago the discrimination of underwriters in the matter of insurance rates charged on ships plying to Canadian ports led the Department to feel that any reasonable expenditure which would tend to reduce these charges would be a sound investment. To this end 12 direction-finding stations have been established at specially selected sites with respect to navigational routes—7 on the east coast, 4 on the Hudson bay and strait, and 1 on the west coast. These stations are fitted with special apparatus which enables the direction of the incoming radio signal transmitted by a ship to be accurately determined. That these stations have proved successful is supported by the volume of letters received by the Department of Marine commending the work of its stations, and the expressed opinion of many master mariners is that Canadian direction-finding stations set a standard for accuracy and efficiency. This opinion was confirmed quite recently by the masters of the vessels which carried the first shiploads of grain from Port Churchill to ports abroad during the summer of 1931 via the Hudson Bay route where direction-finding stations are the primary aid to navigation.¹

¹Detailed information covering navigation conditions in the Hudson bay and strait during the season of navigation, 1930, has been compiled in pamphlet form, copies of which may be procured from the Department.

²Increased to \$2 in 1932.

A more recent extension of the shore direction finder is the development of the direction-finding instrument on board ship. To assist this development, the Department has established radio beacon transmitters at a number of lighthouses and lightships (see Table 69). These radio beacons transmit characteristic radio signals with an approximate range of 50 miles every hour at advertised times during clear weather and continuously when the atmosphere in the vicinity of the station is so obscure as to impede navigation. Ships fitted with their own direction-finding instruments are thus enabled to take their own bearings from these radio beacon stations. All radio beacon apparatus is now standardized and is automatic in its operation, being controlled by a clock which starts in proper sequence the gasoline engine, the generators and other associated apparatus, keeping them in operation for a predetermined period and stopping all machinery at the end of the period.

For years an international ice patrol supported and maintained by the maritime nations of the world has watched the traffic route of the North Atlantic for the purpose of reporting the presence of icebergs to passing ships by radio. Canada has her own problem in this respect—that of combatting ice which accumulates in the lower gulf of St. Lawrence prior to the opening of navigation to Quebec and Montreal each spring. For this purpose a patrol service is maintained in the gulf during the ice period each year by the ice breakers *Mikula* and *N. B. McLean*, or *Montcalm*. These vessels cruise in the vicinity of Cabot straits, observing ice conditions, broadcasting a synopsis of the location and drift of ice to ships and recommending routes to be followed. The ice breakers are prepared to open up lanes through the ice when it is impossible to circumvent the ice fields by devious routes.

To insure the safety of life at sea, all passenger steamers and freighters plying to and from Canadian ports must carry radio equipment manned by competent operators in possession of a certificate of proficiency in radio. The Department maintains a complete radio inspection service to enforce this regulation. Inspectors located at various ports throughout the Dominion are responsible for checking the efficiency of the radio equipment on ships of all nationalities, and seeing that only competent operators are carried. Examinations for certificates of proficiency in radio are conducted by the Radio Branch, and 2,938 certificates have been issued up to Mar. 31, 1931.

Table 69 shows the name and situation of the Government-owned radiotelegraph stations in Canada and Newfoundland. In former editions of the Year Book licensed private commercial stations were also listed, but their increasing number renders this impossible. A list of those in operation in 1926 appears on pp. 657-658 of the 1926 Year Book, while an official list of the radio stations of Canada is published annually by the Radio Branch, Department of Marine, at 25 cents per copy with supplements.

Table 70 gives the number of messages and words handled and the cost of maintenance for the Government stations of the east coast, the west coast, the Great Lakes, and Hudson bay and Hudson strait. For the year 1930-31, the total number of messages was 396,727, as compared with 440,912 in 1929-30, 456,231 in 1928-29, 404,144 in 1927-28 and 402,023 in 1926-27, and of words handled 8,534,982, as compared with 9,167,302 in 1929-30, 8,942,945 in 1928-29, 7,695,757 in 1927-28 and 7,347,794 in 1926-27.

3.—Government-Owned Radio Stations in Canada, fiscal year ended Mar. 31, 1931.¹

Name of Station.	Situation.	Name of Station.	Situation.
East Coast.		Hudson Bay and Hudson Strait.	
Belle Isle, Nfld. ²	Belle Isle Straits.	Cape Hopes Advance, Que. ²	Hudson Strait.
Cape Race, Nfld. ²	Newfoundland.	Nottingham Island ²	Hudson Strait.
Chebucto Head, N.S. ²	Entrance Halifax Harbour.	Port Churchill, Man. ²	Hudson Bay.
Clarke City*.....	Gulf of St. Lawrence.	Resolution Island ²	Hudson Strait.
Fame Point, Que.*.....	" "	Chesterfield Inlet.....	Hudson Bay.
Father Point, Que.*.....	" "		
Grindstone Island, Que.*.....	Magdalen Islds.		
Halifax Dockyard ²	Halifax, N.S.	DIRECTION-FINDING STATIONS.	
Montreal, Que.*.....	St. Lawrence River.	Cape Hopes Advance.....	Hudson Strait.
North Sydney*.....	Cape Breton, N.S.	Nottingham Island.....	Hudson Strait.
Point Amour, Nfld.*.....	Gulf of St. Lawrence.	Port Churchill, Man.....	Hudson Bay.
Quebec, Que.*.....	St. Lawrence River.	Resolution Island.....	Hudson Strait.
Sable Island*.....	North Atlantic.		
Saint John, N.B. ²	Red Head, N.B.		
Yarmouth, N.S. ²	Nova Scotia.		
		Northwest Territories.	
DIRECTION-FINDING STATIONS.		Coppermine.....	Coronation Gulf.
Pelle Isle D/F.....	Belle Isle Straits.		
Canso D/F.....	Nova Scotia.	West Coast.	
Cape Race D/F.....	Newfoundland.	Alert Bay.....	Cormorant Island, B.C.
Chebucto Head D/F.....	Entrance Halifax Harbour.	Bull Harbour.....	Hope Island, Vancouver Is.
Saint John D/F.....	Red Head, N.B.	Cape Lazo.....	Strait of Georgia, near Comox, B.C.
Saint Paul D/F.....	Nova Scotia.	Dead Tree Point ⁴	South of Graham Island, Queen Charlotte Islands.
Yarmouth, D/F.....	Nova Scotia.	Digby Island, B.C.....	Entrance Prince Rupert Harbour.
RADIO BEACON STATIONS.*		Estevan, B.C.....	West coast, Vancouver Is.
Cape Whittle.....	Gulf of St. Lawrence.	Gonzales Hill, B.C.....	Victoria, B.C.
West Point.....	Anticosti.	Merry Island, B.C.....	British Columbia.
Pointe des Monts.....	Gulf of St. Lawrence.	Pachena Point ²	West coast, Vancouver Is.
Cape Bauld.....	N.W. Newfoundland.	Point Grey, B.C.....	Entrance Vancouver Harbour.
Cape Ray.....	S.W. Newfoundland.	Vancouver.....	Merchants Exchange, Vancouver.
Heath Point Lightship.....	Heath Point, Anticosti.	DIRECTION-FINDING STATIONS.	
Lurcher Lightship.....	Off Yarmouth, N.S.	Pachena Point D/F.....	West coast, Vancouver Is.
Sambo Lightship.....	Off Halifax, N.S.		
Seal Island.....	S.E. of Nova Scotia.	RADIO BEACON STATIONS.	
Great Lakes.		Race Rocks.....	Near Victoria, B.C.
Kingston, Ont.*.....	Barrie/field Common.	Langara.....	Langara Island, Q.C.I.
Midland, Ont.*.....	Georgian Bay.	Dead Tree Point.....	South of Graham Island, Q.C.I.
Point Edward, Ont.*.....	Lake Huron.	Quatsino.....	West Coast, V.I. (Kains Is.)
Port Arthur, Ont.*.....	Port Arthur.	Triple Island.....	Triple Islets Group, B.C.
Port Burwell, Ont.*.....	Lake Erie.		
Sault Ste. Marie, Ont.*.....	Sault Ste. Marie, Ont.		
Poibermory, Ont.*.....	Entrance Georgian Bay, Ont.	LIFE-SAVING STATIONS.	
Toronto, Ont.*.....	Toronto Island.	Banfield, B.C.....	West coast, Vancouver Is.
RADIO BEACON STATIONS.		Carmanah, B.C.....	" "
Southeast Shoal.....	Lake Erie.	Cape Beale, B.C.....	" "
Main Duck.....	Lake Ontario.	Pachena, B.C.....	" "
Long Point.....	Lake Erie.		
Michipicoten Island.....	Lake Superior.		
Cove Island.....	Lake Huron.		

¹Of these Government-owned stations some only are operated by the Government. The rest are operated by the Marconi Co. and are indicated by an asterisk (*).

²This is the same station as that listed under Direction-Finding Stations, but is included under two headings to indicate its two functions. It is counted only as a D/F station in the summary in Table 71.

³Temporarily closed.

⁴Also included under Radio Beacon Stations to show its double function.

70.—Business and Cost of Maintenance of Radiotelegraph Stations for the fiscal years ended Mar. 31, 1930 and 1931.

Station.	1930.			1931.		
	Messages Handled.	Words Handled.	Cost of Maintenance.	Messages Handled.	Words Handled.	Cost of Maintenance.
	No.	No.	\$	No.	No.	\$
East Coast.....	141,661	2,793,600	201,344	119,651	2,496,089	212,33
Great Lakes.....	36,218	581,037	61,628	27,782	431,019	79,21
West Coast.....	235,435	4,801,959	129,836	223,574	4,680,209	134,44
Hudson Bay and Strait.....	27,598	990,706	74,821	25,720	927,665	82,17
Totals.....	440,912	9,167,302	467,629	396,727	8,534,982	508,55

Radiotelephony is the wireless transmission of the human voice as distinct from radiotelegraphy of which it is a later development. During the Great War, radiotelephony was perfected for the use of warships and aeroplanes. In 1920 and 1921 its peace-time possibilities were for the first time widely appreciated, and musical programs were broadcasted by electrical companies as part of their campaign to sell private radio equipment. Radiotelephony has become a very practicable means of relaying telephone messages to places where the population is too sparse to support a telephone system and to ships at sea. Thus it is a great boon to distant and isolated posts or settlements and to survey parties in the field, while by this means can keep in touch with the centres of population. But radiotelephony is not applicable to the regular business of telephone companies in urban districts, because only a limited number of messages can be transmitted simultaneously without interference. However, as an indication of the increasing popularity of radio receiving sets for "listening in" on broadcasted musical programs and news, the number of such sets licensed in Canada (private receiving stations in Table 71) has grown from 9,956 in the fiscal year ended Mar. 31, 1923, to 523,161 in 1931. In the latest year the total was divided among the provinces as follows: Ontario, 260,359; Quebec, 96,999; Saskatchewan, 34,152; Manitoba, 33,261; British Columbia, 43,644; Alberta, 24,493; Nova Scotia, 16,942; New Brunswick, 11,829; Prince Edward Island, 1,270; Northwest Territories and Yukon, 147. In the calendar year 1930, the sales in Canada of radio sets numbered 223,222, valued at \$22,776,225. Complete sets manufactured numbered 170,082, valued at \$19,196,936.

Transatlantic Radiotelephone Service.—A radiotelephone service between Canada and Great Britain was made available to the Canadian public, through the medium of the Bell Telephone Co. via the transatlantic radio circuit operated by the American Telegraph and Telephone Co. from New York, in March, 1928. Negotiations have been carried on between the British Post Office and the Canadian operating companies to provide for a direct Anglo-Canadian circuit and the legislation was introduced (May 1932) before the House for the establishment of a Canadian Radio Broadcasting Commission will facilitate the conclusion of such an agreement.

Approximately \$250,000 is expended annually by the Radio Branch of the Department of Marine for the suppression of inductive interference in the interests of broadcast listeners. This service is entirely free. Upwards of 100 men and 24 fully equipped cars are engaged in this work. Radio broadcasting throughout the Dominion is at present carried on by private enterprise. A Royal Commission has investigated the broadcasting situation and its report is now before the Government.

71.—Wireless and Radio Stations in Operation in Canada, Mar. 31, 1927-31.

Class of Station.	1927.	1928.	1929.	1930.	1931.
Coast Stations (Government-owned).....	39	33	30	28	29
Direction-Finding Stations (Government-owned)...	8	8	11	12	12
Ship Stations (Government-owned).....	24	33	37	44	47
Radio Beacon Stations (Government-owned).....	7	8	8	15	19
Radiophone Stations (Government-owned).....	5	4	4	4	4
Land Stations.....	14	27	27	1	1
Ship Stations (commercial).....	272	279	296	275	272
Limited Coast Stations.....	3	3	3	4	4
Public Commercial Stations.....	8	7	4	47	50
Private Commercial Stations.....	72	77	98	138	131
Private Commercial Broadcasting Stations.....	74	84	79	81	80
Experimental Stations.....	59	42	46	71	91
Amateur Experimental Stations.....	402	532	584	610	728
Amateur Broadcasting Stations.....	23	15	12	10	8
Private Receiving Stations.....	215,650	268,420	297,398	424,146	523,100 ¹
Radio Training Schools.....	9	9	5	6	6
Licensed aircraft.....	—	—	2	3	—
Totals.....	216,669	269,581	298,644	425,495	524,582

¹ Includes 677 licences issued free to the blind.

PART XI.—TELEPHONES.¹

The telephone is in part a Canadian invention, though its inventor, Alexander Graham Bell, a Scotchman by birth, was at the time of its invention a resident of the United States, having immigrated with his father to Brantford, Ontario, in 1870, and subsequently proceeded to Boston. According to his account, the discovery of the telephone, both as to its main principle and as to the first transmission of the human voice, was made at his father's residence at Tutela Heights, Brantford, in 1876, and the first telephone talk over any distance was conducted between Brantford and Paris, a distance of 8 miles, on Aug. 10, 1876.

Telephone development in Canada dates from the year 1880, when the Bell Telephone Co. was incorporated by Act of Parliament. Although at this time all patents and lines were owned by the Canadian Telephone Co., they were dependent on the Bell Co., to which they sold out in 1882. By 1883 the first submarine telephone cable had been laid between Windsor and Detroit, and during the year the Bell Co. operated in Canada 4,400 rental-earning telephones, 44 exchanges and 40 agencies, with 600 miles of long distance wire. It controlled development in all the provinces except British Columbia, where the greater part of the system has always been in the hands of the British Columbia Telephone Co., Ltd.

With the rapid growth of private companies in the Maritime Provinces, the lines of the Bell Co. were disposed of in 1888 to the Maritime Telegraph and Telephone Co. in Nova Scotia, and to the New Brunswick Telephone Co. in New Brunswick, an interest in these corporations being retained under the terms of sale. A development of a different kind is seen in the three Prairie Provinces, where well-organized systems were sold to the Governments of Manitoba and Alberta in 1908 and to Saskatchewan in 1909. The lines in Ontario and Quebec are still largely owned by the Bell Telephone Co.

Telephone Systems.—The 2,414 telephone systems existing in 1930 (Table 73) include the three large provincial systems in Manitoba, Saskatchewan and Alberta, and a smaller governmental system in Ontario, together with the system operated by the National Parks of Canada, Department of the Interior. There were also 138 municipal systems, the largest operated by the cities of Edmonton,

¹ Revised by G. S. Wrong, B.Sc., Chief of the Transportation and Public Utilities Branch of the Dominion Bureau of Statistics, which issues an annual report on Telephone Statistics.

Fort William and Port Arthur. Out of the 1,537 co-operative telephone companies, no fewer than 1,174 are in Saskatchewan alone and 202 in Nova Scotia. Besides the above, there were 506 stock companies, 107 partnerships and 12 private systems.

The steady growth of the use of telephones from 1911 on is indicated in the summary statistics of Table 72, showing an increase from 302,759 in 1911 to 1,402,861 in 1930, or from 4.2 to 14.1 telephones per 100 of the population. By provinces, the numbers of telephones in 1930 were as follows: Ontario 630,788, Quebec 304,692, British Columbia 129,209, Saskatchewan 94,196, Alberta 78,425, Manitoba 78,257, Nova Scotia 46,471, New Brunswick 34,935, Prince Edward Island 5,753 and Yukon Territory 135. The number of instruments per 100 estimated population was as follows: British Columbia 21.6, Ontario 19.0, Saskatchewan 10.7, Alberta 11.9, Manitoba 11.6, Quebec 11.1, New Brunswick 8.2, Nova Scotia 8.4 and Prince Edward Island 6.7. In the proportion of telephones to population Canada as a whole, with 14.1 telephones per 100 population, ranks second to the United States which has 16.4 telephones per 100 population.

Estimates of the number of telephone conversations during 1930 were 2,589,255,000 local and 37,497,000 long distance calls. These estimates were based on estimates made by systems operating almost 90 p.c. of all telephones in Canada. Their estimates were based on actual counts made on days of normal business activity, and, after adjusting for uncompleted calls, holidays, Sundays, etc., the average was multiplied by 365. The long distance calls in practically all cases were the actual long distance calls put through or completed. The average was 1,846 local and 27 long distance calls per telephone and 250.5 telephone conversations per capita as compared with an estimated average of 257 in 1929. The estimated per capita average for the United States in 1929 was 231 and for New Zealand, 212.

Statistics of the number of telephone companies reporting to the Dominion Bureau of Statistics are given in Tables 73 and 74.

72.—Progress of Telephones in Canada, years ended June 30, 1911-18, and Dec. 31, 1919-30.

Yr.	Capital- ization.	Cost of Property.	Revenue.	Operating Expenses.	Salaries and Wages. ¹	Com- pa- nies.	Pole Line Mileage.	Tele- phones.	Em- ploy- ees. ²	Tele- phon per Pop- ulation
	\$	\$	\$	\$	\$	No.	miles.	No.	No.	No.
1911	40,043,982	34,737,530	10,068,220	6,973,045	915,636	537	—	302,759	10,425	—
1912	46,276,852	56,887,799	12,273,627	9,094,689	2,659,642	683	—	370,884	12,783	—
1913	59,847,005	69,214,971	14,879,278	11,175,689	6,839,399	1,075	—	463,671	12,867	—
1914	70,291,884	80,258,356	17,297,269	12,882,402	8,250,253	1,136	—	521,144	16,799	—
1915	74,284,991	83,792,583	17,601,673	12,836,715	8,357,029	1,396	—	533,090	15,072	—
1916	76,920,314	88,520,020	18,594,268	11,147,201	7,852,719	1,592	—	548,421	15,247	—
1917	79,121,702	94,469,534	20,122,282	12,095,426	8,882,593	1,695	—	604,136	16,490	—
1918	85,274,691	104,368,628	22,753,280	13,644,518	10,410,807	2,007	—	662,330	17,336	—
1919	100,587,833	125,017,222	29,401,006	20,081,436	15,774,586	2,219	—	778,758	20,491	—
1920	116,689,705	144,560,969	33,473,712	28,044,401	17,294,405	2,327	161,270	856,266	21,187	—
1921	132,537,771	158,678,229	36,996,913	30,080,035	19,000,422	2,365	178,093	902,090	19,943	—
1922	143,802,023	167,332,932	39,559,149	29,966,181	17,305,759	2,387	184,147	944,029	19,321	—
1923	152,673,022	179,002,152	42,132,959	32,390,370	18,182,429	2,459	188,408	1,009,203	21,002	—
1924	160,015,020	193,884,378	44,322,598	33,615,686	18,293,234	2,466	193,399	1,072,454	21,685	—
1925	168,167,291	210,535,795	47,233,617	35,566,947	19,106,383	2,495	194,370	1,142,876	21,831	—
1926	179,151,098	227,155,900	50,522,859	38,141,360	25,219,493	2,479	201,604	1,201,008	23,083	—
1927	192,442,495	243,999,135	56,907,338	48,561,916	26,254,605	2,462	204,245	1,259,987	23,437	—
1928	207,441,866	263,201,651	61,791,333	51,542,544	28,501,378	2,447	207,566	1,334,534	24,373	—
1929	234,943,307	291,589,148	65,240,610	56,559,517	31,672,277	2,415	220,525	1,382,822	27,459	—
1930	258,188,983	319,101,191	69,420,459	61,886,340	32,085,948	2,414	222,113	1,402,861	26,575	—

¹ Includes salaries and wages chargeable to capital accounts.

² Exclusive of employees on rural lines in Saskatchewan.

73.—Number of Telephone Companies in Canada, by Provinces, Dec. 31, 1930.

Province.	Government.	Municipal.	Stock.	Co-operative.	Partnership.	Private.	Total.
Prince Edward Island.....	-	-	18	37	1	3	59
Nova Scotia.....	-	-	16	202	18	11	247
New Brunswick.....	-	-	18	4	4	4	30
Quebec.....	-	-	103	36	22	27	188
Ontario.....	1	127	313	45	50	60	596
Manitoba.....	1	8	1	7	6	7	30
Saskatchewan.....	1	-	20	1,174	-	3	1,198
Alberta.....	2	2	6	31	6	6	53
British Columbia.....	-	1	10	1	-	-	12
Yukon Territory.....	-	-	1	-	-	-	1
Totals.....	5	138	506	1,537	107	121	2,414

74.—Number of Telephone Companies in Canada, 1911-30.¹

Year.	Govt.	Municipal.	Stock.	Co-operative.	Partnership.	Private.	Total.	Year.	Govt.	Municipal.	Stock.	Co-operative.	Partnership.	Private.	Total.
1911.....	3	25	308	101	18	82	537	1921.....	5	103	614	1,544	7	92	2,365
1912.....	3	35	368	133	31	113	683	1922.....	5	117	693	1,474	-	98	2,387
1913.....	4	52	543	262	63	151	1,075	1923.....	5	127	450	1,752	1	124	2,459
1914.....	4	58	611	297	48	118	1,136	1924.....	5	153	502	1,606	63	137	2,466
1915.....	4	62	584	601	28	117	1,396	1925.....	6	144	502	1,551	106	186	2,495
1916.....	4	67	622	765	23	111	1,592	1926.....	6	142	490	1,560	107	174	2,479
1917.....	5	73	645	841	17	114	1,695	1927.....	5	138	496	1,552	102	169	2,462
1918.....	5	74	735	1,085	12	96	2,007	1928.....	5	137	494	1,557	93	161	2,447
1919.....	5	89	666	1,346	18	95	2,219	1929.....	5	137	492	1,543	106	132	2,415
1920.....	5	88	647	1,495	9	83	2,327	1930.....	5	138	506	1,537	107	121	2,414

¹ The years 1911-18 are from July 1 to June 30. Figures for 1919 to 1930 are for the calendar years.

In the two following tables, figures are shown giving the number of telephones in use, the mileage of wire and the number of employees of telephone companies, by provinces, for the year 1930, and for the Dominion, from 1911 to 1930.

75.—Telephones in Use, Mileage of Wire and Number of Employees, by Provinces, Dec. 31, 1930.

Province.	Telephones in Use.						Mileage of Wire.	Em- ployees.
	Busi- ness.	Resi- dential.	Rural.	Public Pay.	Total.	Per 100 Popula- tion.		
	No.	No.	No.	No.	No.	No.	miles.	No.
Prince Ed. Island.....	1,054	1,555	3,077	67	5,753	6.7	7,028	127
Nova Scotia.....	11,328	22,789	11,379	975	46,471	8.4	90,991	993
New Brunswick.....	8,676	17,395	8,271	593	34,935	8.2	60,987	1,101
Quebec.....	92,341	175,219	29,596	7,536	304,692	11.1	1,118,226	6,761
Ontario.....	156,733	342,028	121,001	11,026	630,788	19.0	2,182,503	11,292
Manitoba.....	22,226	39,259	14,738	2,034	78,257	11.6	308,969	1,216
Saskatchewan.....	18,660	21,403	53,670	463	94,196	10.7	381,194	864
Alberta.....	23,012	34,762	19,817	834	78,425	11.9	292,135	1,413
British Columbia.....	39,357	85,525	3,112	1,215	129,209	21.6	437,625	2,808
Yukon.....	-	115	20	-	135	3.6	566	-
Totals.....	373,387	740,050	264,681	24,743	1,402,861	11.1	4,880,224	26,575

¹ Excluding employees on rural lines.

76.—Telephones in Use, Mileage of Wire and Number of Employees, 1911-30.¹

Year.	Telephones in Use.						Mileage of Wire.	Em- ployees
	Business.	Resi- dential.	Rural.	Public Pay.	Total.	Per 100 Popula- tion.		
	No.	No.	No.	No.	No.	No.	miles.	No.
1911.....	-	-	-	-	302,759	4.2	687,782	10,435
1912.....	-	-	-	-	370,884	5.0	889,572	12,733
1913.....	-	-	-	-	463,671	6.2	1,092,587	12,827
1914.....	-	-	-	-	521,144	6.8	1,343,090	16,799
1915.....	-	-	-	-	533,090	6.8	1,452,360	15,072
1916.....	-	-	-	-	548,421	6.8	1,600,564	15,247
1917.....	-	-	-	-	604,136	7.4	1,708,203	16,490
1918.....	-	-	-	-	662,330	8.0	1,848,466	17,336
1919.....	-	-	-	-	778,758	9.2	2,105,240	20,491
1920.....	260,481	390,930	204,855	-	856,266	9.9	2,105,101	21,137
1921.....	273,498	396,384	232,208	-	902,090	10.3	2,268,271	19,943
1922.....	281,535	414,887	247,607	-	944,029	10.6	2,396,805	19,322
1923.....	303,660	444,300	261,360	-	1,009,320	11.1	2,574,083	21,002
1924.....	281,108	509,928	265,509	15,909	1,072,454	11.6	2,765,722	21,688
1925.....	297,875	556,837	268,807	19,357	1,142,876	12.2	3,020,773	21,833
1926.....	311,557	597,429	270,686	21,336	1,201,008	12.8	3,306,214	23,085
1927.....	324,425	637,536	275,544	22,482	1,259,987	13.2	3,591,035	23,421
1928.....	345,771	684,820	280,878	23,065	1,334,534	13.8	3,982,867	24,377
1929.....	366,418	724,001	269,487	22,916	1,382,822	14.1	4,486,213	27,456
1930.....	373,387	740,050	264,681	24,743	1,402,861	14.1	4,880,224	26,573

¹Figures for the years 1911-18 are from July 1 to June 30; those for the years 1919-30 are from Jan. 1 to Dec. 31.

²Excluding employees on rural lines in Saskatchewan.

77.—Financial Statistics of Canadian Telephone Companies, 1912-30.¹

Year.	Capital Stock.	Funded Debt.	Cost of Property and Equipment.	Salaries and Wages. ²	Gross Revenue.	Operating Expenses.	Net Operating Revenue.
	\$	\$	\$	\$	\$	\$	\$
1912.....	21,533,605	24,743,247	56,887,799	2,659,642	12,273,627	9,094,689	3,178,938
1913.....	26,590,501	33,256,503	69,214,971	6,839,309	14,897,278	11,175,689	3,721,589
1914.....	28,644,340	41,647,554	80,258,356	8,250,253	17,297,269	12,882,402	4,414,867
1915.....	28,947,122	45,337,869	83,792,583	8,357,029	17,601,673	12,836,715	6,764,958
1916.....	29,416,956	47,503,358	88,520,021	7,852,719	18,594,268	11,147,201	7,447,067
1917.....	29,476,367	49,645,335	94,469,534	8,882,593	20,122,282	12,095,426	8,026,856
1918.....	29,803,090	55,471,601	104,368,627	10,410,807	22,753,280	13,644,524	9,108,756
1919.....	35,227,233	65,360,600	125,017,222	15,774,586	29,401,006	20,081,436	9,319,570
1920.....	36,149,838	80,539,367	144,560,969	17,294,405	33,473,712	28,044,401	5,429,311
1921.....	42,194,426	90,343,345	158,678,229	19,000,422	36,986,913	30,080,035	6,906,878
1922.....	48,968,198	94,833,825	167,332,932	17,305,759	39,559,149	29,966,181	9,592,968
1923.....	57,366,675	95,306,347	179,002,152	18,182,429	42,132,959	32,390,370	10,266,212
1924.....	63,798,133	96,216,887	193,884,378	18,293,234	44,322,598	33,615,686	10,706,912
1925.....	65,514,130	102,633,161	210,535,795	19,106,383	47,233,617	35,566,947	11,666,670
1926.....	68,345,999	110,805,099	227,155,900	25,219,493	50,522,859	38,141,360	12,381,499
1927.....	76,460,540	115,981,955	243,990,135	26,254,605	56,907,338	43,561,916	8,345,422
1928.....	85,913,239	121,528,627	263,201,651	28,501,378	61,791,333	51,542,544	10,248,789
1929.....	93,737,979	141,205,328	291,589,148	31,672,277	65,240,610	56,559,517	8,681,093
1930.....	102,777,267	155,411,716	319,101,191	32,085,948	69,420,459	61,886,340	7,534,119

¹Figures for the years 1912-18 are from July 1 to June 30; those for the years 1919-30 are from Jan. 1 to Dec. 31. ²Includes salaries and wages chargeable to capital accounts.

PART XII.—THE POST OFFICE.

Historical.—A postal service was established between Montreal and Quebec as early as 1721, official messengers and other travellers making a practice of carrying letters for private persons. When Canada came under British rule the Post Office was placed on a solid footing by Benjamin Franklin, then Deputy Postmaster General for the American colonies, who visited Canada in 1763, opened post offices at Quebec, Montreal and Three Rivers, and also established courier communication between Montreal and New York. Since 1755 Halifax had had a post office and direct postal communication with Great Britain.

As a consequence of the American Revolution and the resulting isolation of Canada from Nova Scotia the first exclusively Canadian postal service, a monthly courier route from Halifax to Quebec, was established in 1788, involving a seven weeks' trip and expenses of about £200 of which only one-third was met by postal charges. Up to 1804 the postal facilities of Upper Canada consisted of one regular trip by courier each winter with whatever mail might reach Montreal during the season of navigation. Charges were necessarily high, \$1.12 being paid on ordinary letters from London to Toronto *via* Halifax.

The first post office in Toronto was opened about 1800. By 1816 there were 19 offices in the two Canadas, and by 1827 this number had increased to 114. At this time the system consisted primarily of a trunk line of communication between Halifax, Quebec, Montreal, Toronto and Amherstburg, over which couriers travelled at varying intervals. Branching off this line were routes to Sorel, Sherbrooke, St. Johns, Hull, Hawkesbury, Perth and Richmond, with most deliveries made once or twice a week.

Hitherto the Post Office had been under the control of the Imperial Department, but considerable agitation resulted in the service being transferred on April 6, 1851, to the several provinces. Only enough mutual control was maintained to insure the continuance of Imperial and intercolonial services. The provinces had complete jurisdiction over the establishment and maintenance of systems and rates.

At Confederation the provincial systems were transferred to the Dominion. The Post Office Act of 1867 established a service throughout Canada. The domestic rate on letters was reduced from 5 to 3 cents per half-ounce, and in 1870 the rates to the United States and Great Britain were reduced from 10 to 6 cents and from 12½ to 6 cents respectively per half-ounce. In 1875 a convention between Canada and the United States reduced postal rates between the countries to the domestic level. In 1878, on the admission of Canada to the Postal Union, letter postage to the countries of the Postal Union was reduced to 5 cents per half-ounce. After a conference in 1897 Imperial penny postage (2 cents per half-ounce) was established on Dec. 25, 1898, while the domestic rate was reduced from 3 to 2 cents per ounce. These rates were maintained until 1915, when a 1-cent war tax was imposed on all pay letters and post cards (except where this would be in violation of international agreements), and also on postal notes. Later the rate to Great Britain was increased to 4 cents on the first and 3 cents on succeeding ounces, while that to Postal Union countries was raised to 10 cents on the first and 5 cents on succeeding ounces. The Postal Union rate was reduced in October, 1925, to 8 cents for the first ounce and 4 cents for subsequent ounces. Penny postage again became effective for Canada, to the United States, Newfoundland and other countries of the continent of North America on July 1, 1926, and to Great Britain

and all other places within the British Empire on Dec. 25, 1928. On May 24, 1929, penny postage became effective to France, and on Dec. 25, 1929, was extended to all places in South America. On the first of July, 1930, the rate to other Postal Union countries was made 5 cents for the first ounce and 3 cents for each succeeding ounce. On the first of July, 1931, a special revenue tax imposed by the Government for the purpose of obtaining additional revenue, came into effect on letters addressed to places in Canada, throughout the Empire, to France and to North and South America generally, making the rate in these cases 3 cents for the first ounce and 2 cents for each succeeding ounce.

The Post Office Department is administered by the Postmaster General. Besides the several administrative branches at Ottawa, the Dominion is divided into 15 districts, each in charge of a Superintendent of Postal Service. The Canadian system embraces a territory more extensive than that served by any other system, excepting those of the United States and Russia, though the sparsity of population and the comparative lack of development make inevitable a peculiarly difficult and expensive service.

Rural Mail Delivery.—A system of rural mail delivery was inaugurated in Canada on Oct. 10, 1908, limited at that time to existing stage routes, persons residing on such routes being entitled to have mail boxes put up in which the mail carrier was to deposit mail matter and from which he was to collect mail matter and carry it to the post office. As a consequence of the public approval of this scheme, new regulations, taking effect on April 1, 1912, made all persons residing in rural districts along and contiguous to well-defined main thoroughfares of one mile and upwards eligible to receive their mail in this manner, while couriers on rural mail routes were also required to sell postage stamps and take applications, and accept money, for money orders and postal notes. The result has been an increase in the number of rural routes from approximately 900 in 1912 to 4,210 in 1930, having 237,351 mail boxes as against approximately 25,000 in 1912. The establishment of these routes has been an important factor in the amelioration of the conditions of Canadian rural life.

Statistics.¹—Tables 78 to 80 show the number of post offices in operation in Canada in the latest six years, the gross revenue in all offices collecting \$10,000 and upwards in 1930 and 1931, and the net revenue and expenditure of the Department in various years since 1890.

¹ Revised, as to financial transactions, by H. E. Atwater, Financial Superintendent, Post Office Department.

78.—Number of Post Offices in Operation, by Provinces, Mar. 31, 1926-31.

Province.	1926.	1927.	1928.	1929.	1930.	1931.
Prince Edward Island.....	131	130	128	127	126	122
Nova Scotia.....	1,791	1,778	1,771	1,770	1,762	1,753
New Brunswick.....	1,119	1,113	1,114	1,079	1,062	1,044
Quebec.....	2,429	2,463	2,514	2,528	2,519	2,510
Ontario.....	2,613	2,614	2,604	2,586	2,575	2,577
Manitoba.....	818	817	817	816	815	811
Saskatchewan.....	1,433	1,428	1,428	1,423	1,430	1,444
Alberta.....	1,203	1,195	1,200	1,189	1,191	1,223
British Columbia.....	868	867	866	876	892	899
Yukon Territory.....	20	20	20	20	20	20
Northwest Territories.....	14	15	16	16	17	17
Totals.....	12,439	12,440	12,478	12,430	12,409	12,421

79.—Statistics of Gross Postal Revenue of Offices Collecting \$10,000 and upwards, fiscal years ended Mar. 31, 1930 and 1931.

Name of Post Office.	1930.	1931.	Name of Post Office.	1930.	1931.
	\$	\$		\$	\$
P.E. Island.			Ontario.		
Charlottetown.....	64,554	66,394	Amherstburg.....	11,369	10,420
Summerside.....	20,510	20,696	Arnprior.....	14,964	14,596
Totals for Province...	160,057	161,026	Aurora.....	15,598	17,579
Nova Scotia.			Aylmer West.....	12,671	12,307
Amherst.....	30,703	31,821	Barrie.....	28,622	28,535
Antigonish.....	13,162	14,098	Belleville.....	66,015	62,799
Bridgewater.....	17,336	17,803	Bowmanville.....	13,496	13,752
Digby.....	10,717	11,256	Bracebridge.....	13,674	13,584
Glace Bay.....	17,576	16,745	Brampton.....	24,534	25,660
Halifax.....	504,434	513,143	Brantford.....	146,399	142,550
Kentville.....	17,809	19,269	Bridgeburg.....	24,611	24,958
Liverpool.....	16,993	14,454	Brockville.....	48,627	48,787
Lunenburg.....	13,591	13,470	Carleton Place.....	16,254	15,916
New Glasgow.....	37,717	38,256	Chatham.....	68,763	67,001
North Sydney.....	17,375	16,589	Cobalt.....	21,644	18,692
Pictou.....	12,872	13,237	Cobourg.....	43,780	36,930
Springhill.....	14,810	14,116	Cochrane.....	17,454	19,812
Stellarton.....	10,896	11,091	Collingwood.....	20,837	18,788
Sydney.....	68,169	64,067	Copper Cliff.....	12,654	12,755
Truro.....	52,739	54,885	Cornwall.....	40,919	39,363
Windsor.....	17,777	18,421	Dundas.....	16,159	15,367
Wolfville.....	14,148	13,924	Dunnville.....	20,343	19,349
Yarmouth.....	29,636	30,343	Fergus.....	16,392	16,236
Totals for Province...	1,417,663	1,401,929	Fort Frances.....	21,094	19,215
New Brunswick.			Fort William.....	80,445	77,492
Bathurst.....	13,103	12,908	Galt.....	66,457	63,941
Campbellton.....	24,761	23,284	Gananoque.....	19,396	18,233
Chatham.....	13,399	13,164	Georgetown.....	10,831	12,493
Dalhousie.....	11,484	11,431	Goderich.....	16,986	16,636
Edmundston.....	17,836	16,678	Gravenhurst.....	10,701	10,178
Fredericton.....	74,550	70,579	Grimsby.....	12,119	11,332
Moncton.....	555,125	510,258	Guelph.....	101,567	97,719
Newcastle.....	12,371	11,760	Haileybury.....	12,208	11,525
Saint John.....	271,035	270,877	Hamilton.....	645,694	621,721
St. Stephen.....	18,803	17,930	Hanover.....	14,187	14,904
Sackville.....	18,524	17,990	Hawkesbury.....	10,884	10,148
Sussex.....	17,215	16,563	Hespeler.....	10,463	10,365
Woodstock.....	20,745	20,566	Huntsville.....	14,775	14,336
Totals for Province...	1,402,374	1,331,383	Ingersoll.....	24,163	22,758
Quebec.			Kapuskasing.....	15,016	13,218
Buckingham.....	10,161	10,015	Kenora.....	24,859	23,526
Chicoutimi.....	36,211	32,860	Kincardine.....	14,059	14,591
Coaticook.....	12,647	12,524	Kingston.....	110,695	112,362
Drummondville East.....	19,516	22,160	Kirkland Lake.....	25,329	25,742
Farnham.....	11,338	11,967	Kitchener.....	134,173	139,275
Granby.....	24,155	22,620	Learnington.....	20,075	19,314
Hull.....	27,830	28,181	Lindsay.....	35,229	36,064
Joliette.....	21,343	21,916	Listowel.....	15,674	15,126
La Tuque.....	12,061	12,080	London.....	537,324	513,111
Lévis.....	22,779	23,018	Meaford.....	10,281	10,069
Magog.....	11,792	11,328	Midland.....	21,419	20,540
Montmagny.....	10,726	10,636	Napance.....	19,840	19,949
Montreal.....	4,933,564	4,725,519	New Liskeard.....	18,820	20,154
Quebec.....	619,001	612,291	Newmarket.....	16,279	16,687
Rimouski.....	15,373	16,188	Niagara Falls.....	145,267	137,953
Ste. Agathe des Monts.....	11,462	11,325	North Bay.....	63,183	63,401
St. Hyacinthe.....	35,823	34,462	Oakville.....	16,902	16,436
St. Johns.....	28,474	27,714	Orangeville.....	11,724	12,203
St. Jérôme.....	15,956	15,991	Orillia.....	42,250	37,299
Shawinigan Falls.....	28,840	24,941	Oshawa.....	112,172	94,785
Sherbrooke.....	119,304	116,456	Ottawa.....	653,419	652,385
Sorel.....	14,369	15,060	Owen Sound.....	50,525	49,914
Theford Mines.....	21,094	19,002	Paris.....	24,988	24,221
Three Rivers.....	78,564	76,859	Parry Sound.....	15,025	13,926
Valleyfield.....	12,953	13,441	Pembroke.....	33,023	31,123
Victoriaville.....	18,489	19,636	Perth.....	27,984	28,927
Totals for Province...	7,799,962	7,431,940	Peterborough.....	120,646	114,933
			Petrolia.....	12,788	11,812
			Pictou.....	17,510	17,761
			Port Arthur.....	59,265	56,522
			Port Colborne.....	28,765	23,817
			Port Hope.....	21,088	20,553
			Prescott.....	16,213	16,423
			Preston.....	23,094	22,301

79.—Statistics of Gross Postal Revenue of Offices Collecting \$10,000 and upwards, fiscal years ended March 31, 1930 and 1931—concluded.

Name of Post Office.	1930.	1931.	Name of Post Office.	1930.	1931.
	\$	\$		\$	\$
Ontario—concluded.			Alberta.		
Renfrew.....	26,668	26,703	Banff.....	19,708	17,084
St. Catharines.....	103,692	99,104	Calgary.....	699,182	646,100
St. Marys.....	16,932	16,174	Camrose.....	15,646	15,199
St. Thomas.....	66,339	61,422	Drumheller.....	21,970	19,376
Sarnia.....	65,525	63,841	Edmonton.....	541,387	517,593
Sault Ste. Marie.....	70,020	67,576	Grand Prairie.....	12,172	12,093
Simcoe.....	34,772	36,475	Lacombe.....	11,086	10,598
Smiths Falls.....	27,354	26,271	Lethbridge.....	76,830	73,471
Stratford.....	66,850	66,940	Medicine Hat.....	43,796	40,109
Strathroy.....	12,900	12,424	Red Deer.....	19,307	18,303
Sudbury.....	79,747	79,086	Vegreville.....	11,083	10,654
Thorold.....	12,191	11,306	Vermilion.....	10,030	10,090
Tillsonburg.....	14,753	14,856	Wetaskiwin.....	14,230	13,742
Timmins.....	33,791	36,645			
Toronto.....	7,134,172	6,924,340	Totals for Province...	2,429,178	2,247,719
Trenton.....	20,443	20,491			
Walkerton.....	11,381	11,328	British Columbia.		
Wallaceburg.....	14,521	13,243	Chilliwack.....	17,050	17,821
Waterloo.....	43,311	44,710	Cranbrook.....	22,313	20,726
Welland.....	42,816	40,503	Duncan.....	19,772	18,557
Weston.....	23,069	24,408	Fernie.....	16,642	14,468
Whitby.....	14,599	14,090	Kamloops.....	35,086	34,914
Windsor.....	485,512	447,319	Kelowna.....	23,847	24,841
Wingham.....	11,756	11,395	Nanaimo.....	30,114	28,895
Woodstock.....	59,407	56,551	Nelson.....	43,997	44,083
			New Westminster.....	92,794	93,962
Totals for Province...	14,764,298	14,292,437	Penticton.....	20,042	20,832
			Port Alberni.....	11,119	10,705
Manitoba.			Powell River.....	13,494	16,540
Brandon.....	109,977	102,806	Prince George.....	14,328	12,243
Dauphin.....	22,800	21,476	Prince Rupert.....	36,023	36,747
Flin Flon.....	—	10,070	Revelstoke.....	16,629	15,821
Neepawa.....	11,156	10,548	Rossland.....	—	10,029
Portage la Prairie.....	28,712	27,982	Trail.....	29,192	35,193
St. Boniface.....	20,750	17,992	Vancouver.....	1,487,585	1,406,935
The Pas.....	25,526	19,441	Vernon.....	31,159	32,773
Wawanesa.....	10,535	11,029	Victoria.....	297,264	289,429
Winnipeg.....	3,672,536	3,247,674			
Totals for Province...	4,484,988	3,994,111	Totals for Province...	2,871,639	2,739,845
Saskatchewan.			Yukon.		
Assiniboia.....	11,463	10,702	Totals for Yukon...	12,934	12,265
Biggar.....	11,413	10,511			
Estevan.....	19,747	19,114			
Humboldt.....	12,284	12,192			
Lloydminster.....	13,837	12,632			
Melfort.....	15,417	14,574	Summary.		
Melville.....	14,914	14,866	Prince Edward Island....	160,057	161,026
Moose Jaw.....	134,986	118,831	Nova Scotia.....	1,417,663	1,401,929
North Battleford.....	29,956	30,919	New Brunswick.....	1,402,374	1,331,383
Prince Albert.....	52,148	51,725	Quebec.....	7,799,962	7,431,940
Regina.....	933,141	922,395	Ontario.....	14,764,298	14,292,437
Rosetown.....	11,705	10,897	Manitoba.....	4,484,988	3,994,111
Saskatoon.....	373,486	339,841	Saskatchewan.....	3,092,497	2,860,172
Shaunavon.....	14,517	12,746	Alberta.....	2,429,178	2,247,719
Swift Current.....	39,186	35,555	British Columbia.....	2,871,639	2,739,845
Weyburn.....	30,223	27,892	Yukon.....	12,934	12,265
Yorkton.....	33,320	31,517			
Totals for Province...	3,092,497	2,860,172	Totals for Canada....	38,435,590	36,472,827

80.—Revenue and Expenditure of the Post Office Department for the quinquennial fiscal years ended 1890-1910, and fiscal years ended Mar. 31, 1911-31.

NOTE.—For all other years, see 1911 Year Book, p. 288.

Fiscal Year.	Net Revenue. ¹	Expendi- ture.	Deficit.	Surplus.
	\$	\$	\$	\$
1890.....	2,357,389	3,074,470	717,081	-
1895.....	2,729,790	3,593,647	800,857	-
1900.....	3,183,984	3,645,646	461,662	-
1905.....	5,125,373	4,634,628	-	490,845
1910.....	7,959,547	7,215,337	-	743,210
1911.....	9,146,952	7,954,223	-	1,192,729
1912.....	10,482,255	9,172,035	-	1,310,220
1913.....	12,060,476	10,882,805	-	1,177,671
1914.....	12,956,216	12,822,058	-	134,158
1915.....	13,046,650	15,961,191	2,914,541	-
1916.....	18,858,410	16,009,139	-	2,849,271
1917.....	20,902,384	16,300,579	-	4,601,805
1918.....	21,345,394	18,046,558	-	3,298,836
1919.....	21,602,713	19,273,584	-	2,329,129
1920.....	24,449,917	20,774,385	-	3,675,532
1921.....	26,331,119	24,661,262	-	1,669,857
1922.....	26,554,538	28,121,425	1,566,887	-
1923.....	29,262,233	27,794,502	-	1,467,731
1924.....	29,100,492	28,305,937	-	794,555
1925.....	28,581,993	29,873,802	1,291,809	-
1926.....	31,024,464	30,499,686	-	524,778
1927.....	29,378,697	31,007,698	1,629,001	-
1928.....	30,529,155	32,379,196	1,850,041	-
1929.....	31,170,904	33,483,058	2,312,154	-
1930.....	32,969,293	35,036,629	2,067,336	-
1931.....	30,416,106	36,292,603	5,876,496	-

¹"Net revenue" is exclusive of salaries and allowances to postmasters and some other smaller items. The gross revenue in the fiscal year 1930 was \$39,984,126 and for 1931, \$37,486,252.

Auxiliary Services.—The auxiliary postal services—the issuing of money orders (including postal notes) and the facilities offered by the Post Office savings banks—have expanded enormously since Confederation. In 1868, for example, there were 515 money order offices in operation, issuing orders to an amount of \$3,342,574. In 1931 the number of offices had increased to 6,401, while the value of orders issued was over 60 times as large as in the earlier year. In the following tables, illustrating the use of money orders and postal notes, it will also be noticed that the large number of 16,313,134 money orders, representing a value of \$167,749,651, was issued during 1931. The number of postal notes received and paid was 8,145,855, with a value of \$14,681,376. It may be added that postal notes are issued payable to bearer and are in general use for the transfer of small sums, but money orders, on the other hand, are payable to order at a designated post office. Statistical tables showing deposits with the Government savings banks since Confederation and combined business of Post Office and Dominion Government savings banks, 1926-31, are included in the chapter on Currency and Banking. (See pp. 783-6).

81.—Operation of the Money Order System in Canada, fiscal years ended June 30, 1901-06, and Mar. 31, 1907-31.

NOTE.—For 1868 to 1900, see Canada Year Book, 1911, p. 289.

Fiscal Year.	Money Order Offices in Canada.	Orders Issued in Canada.	Value of Orders Issued in Canada.	Payable in—		Value of Orders Issued in Other Countries, Payable in Canada.
				Canada.	Other Countries.	
	No.	No.	\$	\$	\$	\$
1901.....	1,904	1,151,024	17,956,258	14,324,289	3,631,969	2,592,845
1902.....	2,066	1,446,129	23,549,402	18,423,035	5,126,367	3,575,803
1903.....	2,125	1,668,705	26,868,202	20,761,078	6,107,124	4,604,528
1904.....	2,214	1,869,233	29,652,811	21,706,474	7,946,337	5,197,122
1905.....	2,494	1,924,130	32,349,476	23,410,485	8,938,991	5,602,257
1906.....	2,676	2,178,549	37,355,673	26,133,565	11,222,108	6,533,201
1907 (9 mos.).....	2,789	1,845,278	32,160,098	21,958,855	10,201,243	5,393,042
1908.....	2,918	2,990,691	49,974,007	31,836,629	18,137,378	7,933,361
1909.....	3,114	3,596,299	52,627,770	36,577,552	16,050,218	7,794,751
1910.....	3,311	4,178,752	60,967,162	41,595,205	19,371,957	8,048,467
1911.....	3,501	4,840,896	70,614,862	45,451,425	25,163,437	8,664,557
1912.....	3,673	5,777,757	84,065,891	52,568,433	31,497,458	8,712,667
1913.....	3,923	8,688,563	101,153,272	61,324,030	39,829,242	9,081,627
1914.....	4,274	7,227,964	109,500,670	66,113,221	43,387,449	9,807,313
1915.....	4,499	6,990,813	89,957,906	64,723,941	25,233,965	9,707,383
1916.....	4,690	7,171,375	94,469,871	75,781,582	18,688,289	9,868,137
1917.....	4,810	8,698,502	119,695,535	97,263,961	22,431,574	9,704,610
1918.....	4,930	9,919,665	142,959,167	116,764,491	26,194,676	9,385,627
1919.....	4,953	9,100,707	142,375,809	116,646,096	25,729,713	10,351,021
1920.....	5,106	9,947,018	159,224,937	135,201,816	24,023,121	10,050,361
1921.....	5,197	11,013,167	173,523,322	155,916,232	17,607,090	6,680,971
1922.....	5,266	10,031,198	139,914,186	124,316,726	15,597,460	5,515,069
1923.....	5,337	11,098,222	143,055,120	126,617,350	16,437,770	8,986,041
1924.....	5,472	12,561,490	159,855,115	141,620,372	18,234,743	13,508,396
1925.....	5,578	13,435,448	163,519,320	145,769,761	17,749,559	13,957,613
1926.....	5,706	14,784,230	177,840,231	158,844,831	18,995,400	15,600,917
1927.....	5,797	15,760,994	188,219,777	167,206,859	21,012,918	15,532,673
1928.....	5,923	17,505,563	200,773,403	177,880,036	22,893,367	15,398,181
1929.....	6,066	17,210,316	203,129,237	179,833,100	23,296,138	14,096,027
1930.....	6,209	17,525,979	197,699,353	174,285,024	23,414,329	14,016,240
1931.....	6,401	16,313,134	167,749,651	149,012,359	18,737,292	12,906,487

Attention may be drawn to the excess of the value of money orders issued in Canada over the value of money order paid in Canada. This difference (about \$5,830,000 in 1931 and about \$33,580,000 in 1914) represents to a large extent remittances made by immigrants and to travellers in foreign countries. It is an indication, at least, of the large amounts sent out from Canada, and is an essential figure in the computation of our balance of trade.

32.—Money Orders, by Provinces, and Total Postal Notes, fiscal years ended Mar. 31, 1927-31.

Province.	1927.	1928.	1929.	1930.	1931.
	No.	No.	No.	No.	No.
Money Order Offices in—					
Canada.....	5,797	5,923	6,066	6,209	6,401
Prince Edward Island.....	68	68	68	70	72
Nova Scotia.....	382	385	387	400	421
New Brunswick.....	269	284	281	285	306
Quebec.....	1,237	1,254	1,291	1,330	1,370
Ontario.....	1,632	1,653	1,676	1,681	1,696
Manitoba.....	391	402	414	435	450
Saskatchewan.....	779	805	833	853	891
Alberta.....	555	577	609	643	673
British Columbia.....	478	487	499	505	515
Yukon Territory.....	6	8	8	7	7
Money Orders Issued in—					
Canada.....	15,760,994	17,505,563	17,210,316	17,525,979	16,313,134
Prince Edward Island.....	120,521	132,449	133,302	151,000	151,811
Nova Scotia.....	1,020,974	1,082,898	1,082,210	1,177,126	1,134,996
New Brunswick.....	599,785	625,937	658,700	726,631	689,993
Quebec.....	2,250,437	2,680,292	2,614,493	2,859,337	2,698,723
Ontario.....	4,589,798	4,814,717	4,674,538	4,813,685	4,587,967
Manitoba.....	1,124,566	1,251,054	1,240,124	1,240,430	1,139,333
Saskatchewan.....	2,994,600	3,476,742	3,280,063	3,057,750	2,653,994
Alberta.....	1,851,985	2,128,610	2,149,257	2,056,748	1,848,114
British Columbia.....	1,188,970	1,302,149	1,365,931	1,431,630	1,396,018
Yukon Territory.....	9,358	10,715	11,698	11,642	12,185
Value of Money Orders Issued in—					
Canada.....	\$ 188,219,778	\$ 200,773,403	\$ 203,129,237	\$ 197,699,353	\$ 167,749,651
Prince Edward Island.....	1,459,751	1,558,411	1,577,370	1,711,244	1,691,838
Nova Scotia.....	11,093,311	11,498,537	11,755,770	12,746,149	11,722,636
New Brunswick.....	7,057,262	7,272,069	7,508,412	8,236,195	7,408,955
Quebec.....	25,869,584	27,320,599	27,915,322	29,319,688	26,450,676
Ontario.....	52,035,548	53,329,608	53,392,573	53,684,637	47,294,433
Manitoba.....	13,708,401	14,024,147	14,362,604	13,771,051	11,531,293
Saskatchewan.....	38,338,614	41,740,502	41,087,022	35,195,400	26,142,693
Alberta.....	23,327,673	27,807,168	28,505,695	25,212,265	19,530,975
British Columbia.....	15,124,890	15,986,960	16,764,171	17,570,154	15,727,240
Yukon Territory.....	204,744	235,401	260,298	252,565	243,907
Money Orders Paid in—					
Canada.....	14,531,587	15,576,988	15,928,705	16,261,451	15,194,131
Prince Edward Island.....	45,996	46,171	50,295	55,522	57,168
Nova Scotia.....	610,237	628,956	641,589	670,986	659,447
New Brunswick.....	1,019,185	1,091,069	1,045,897	1,148,453	1,075,018
Quebec.....	1,696,197	1,898,228	2,372,736	2,760,896	2,569,951
Ontario.....	5,153,755	5,177,944	4,929,503	4,886,156	4,644,032
Manitoba.....	3,145,486	3,469,756	3,462,363	3,337,598	2,980,705
Saskatchewan.....	1,650,023	1,890,988	1,957,848	1,833,069	1,715,563
Alberta.....	613,617	718,610	767,880	831,021	762,442
British Columbia.....	595,953	654,089	699,147	736,320	728,355
Yukon Territory.....	1,138	1,177	1,447	1,430	1,450

82.—Money Orders, by Provinces, and Total Postal Notes, fiscal years ended Mar. 31, 1927-31—concluded.

Province.	1927.	1928.	1929.	1930.	1931.
Value of Money Orders Paid in—	\$	\$	\$	\$	\$
Canada	183,192,237	192,416,980	192,439,720	189,558,749	162,773,000
Prince Edward Island.....	861,106	882,195	922,183	962,828	905,202
Nova Scotia.....	7,890,684	7,962,408	8,123,644	8,615,554	8,089,081
New Brunswick.....	12,062,877	12,157,500	11,896,720	12,492,358	11,057,962
Quebec.....	22,009,406	23,235,516	27,166,302	30,400,388	26,985,799
Ontario.....	59,382,950	60,099,268	55,864,338	54,660,931	48,548,791
Manitoba.....	39,240,302	40,905,097	39,171,978	35,474,587	27,537,919
Saskatchewan.....	20,930,351	23,908,547	24,484,599	21,527,686	17,473,777
Alberta.....	10,822,206	12,581,954	13,610,889	13,784,609	11,467,571
British Columbia.....	9,952,841	10,650,011	11,162,557	11,595,062	10,672,399
Yukon Territory.....	30,515	34,485	36,509	35,741	34,546
Postal Notes—					
Total notes received and paid..... No.	7,197,896	7,490,169	7,912,970	8,466,055	8,145,855
Total value, including postage stamps affixed..... \$	16,183,119	16,673,633	16,670,112	15,578,489	14,681,376
Commission received..... \$	176,440	179,487	184,309	188,098	179,745

Postage Stamps.—The value of the postage stamps, post cards, etc., sold during each of the latest five fiscal years, as shown in the statement of revenue in the Postmaster General's reports, was as follows: \$26,226,473 in 1927, \$26,200,776 in 1928, \$26,475,541 in 1929, \$27,101,353 in 1930 and \$25,769,781 in 1931. Receipts from postage paid in cash were as follows: \$6,068,722 in 1927, \$7,467,611 in 1928, \$8,410,255 in 1929, \$9,045,805 in 1930 and \$8,887,322 in 1931.

Air Mail Services.—In keeping with the policy of retrenchment the air mail services were subjected to careful scrutiny early in 1931, but so valuable is the service that the reductions which could be made were found to be few. The Trans-Prairie route was rearranged to link up Edmonton with Calgary on the main route from Winnipeg, and direct service to the cities of Saskatoon and North Battleford was withdrawn without very seriously impairing the postal advantages at those places. The experimental service to the Maritime Provinces was withdrawn for the present and services between Toronto and Montreal and Toronto and Buffalo were also discontinued.

By means of careful rearrangement and schedule revisions the remaining services are being made to serve a distinctly useful purpose in Canadian business life and the volume of mail carried per mile has increased substantially.

A long desired hook-up between Eastern and Western Canada, through U.S.A. lines, was first provided on Feb. 3, 1931, when a regular service between Winnipeg and Pembina, N.D., connecting with United States services to Saint Paul and Chicago, and thence to Detroit, was established. By means of this service a letter posted in Toronto on Monday evening is delivered in Winnipeg on Tuesday afternoon and in Calgary and Edmonton on Wednesday morning, with correspondingly fast service on the eastward route. Business men, particularly on the Prairies, have been quick to appreciate the time-saving qualities of this fine service.

83.—Mileage Flown and Weight of Mails Carried by Air, fiscal year ended Mar. 31, 1931.

Route.	Distance.	Single Trips Scheduled.	Trips Made.	Total Distance Flown.	Weight of Mail Carried.
	miles.	No.	No.	miles.	lb.
Amos-Siscoe.....	42	86	86	2,923	6,641
Chibougamau-Oskelaneo superseded by: Amos-Chibougamau, Sept. 15, 1930.....	190	64	56	8,720	1,951
Lac du Bonnet-Bissett.....	82	96	94	7,708	13,925
Leamington-Pelee Island.....	22	194	142	3,124	18,111
Moncton-Charlottetown <i>via</i> Summer- side on Eastbound trip.	Eastbound 100 Westbound 80	178	150	10,260	71,907
Moncton-Magdalen Island.....	200	34	41	800	1,818
Montreal-Albany.....	200	313	296	58,823	20,802
Montreal-Detroit.....	557.5	608	584	299,104	42,135
Montreal-Moncton <i>via</i> Saint John.....	467	630	536	184,855	6,748
Montreal-Ottawa.....	110	61	51	5,610	2,607
Montreal-Quebec. Discontinued Jan. 31, 1931.....	134	510	449	59,988	2,308
Montreal-Rimouski.....	330	92	84	26,621	54,044
Narrow Lake-Sioux Lookout.....	Tues. 232 Fri. 332	176	176	26,634	38,550
Peace River-North Vermilion.....	167	4	5	1,670	10,014
Quebec-Seven Islands.....	345	68	46	17,940	23,506
Regina-Edmonton.....	493	730	713	328,700	26,351
Seven Islands-Anticosti.....	120	16	10 ¹	1,200	1,782
Toronto-Buffalo.....	100	304	277	27,635	42,215
Winnipeg-Calgary.....	815.5	731	707	528,301	49,448
Winnipeg-Pembina.....	66.4	116	114	7,570	4,860
MACKENZIE RIVER SERVICE— Ft. McMurray-Fort Smith.....	1,656	160	181	132,589	62,687
Ft. Smith-Ft. Resolution.....		80	154		
Ft. Resolution-Ft. Simpson.....		40	62		
Ft. Simpson-Aklavik.....		12	23		
Special Flights.....	Varied	Varied	50	9,175	4,093
Totals.....	-	-	-	1,747,950	506,503

¹Service (which is a seasonal operation) almost completely suspended owing to abnormal winter weather conditions.

Subsidies, etc.—The conveyance of mail by land, water and air entailed a total expenditure of \$15,525,812 during 1930. Land transportation (largely that by rural delivery) cost \$6,554,150, railway carriage cost \$7,804,999, conveyance by steamship cost \$532,793, while that by air cost \$633,870. These amounts were paid solely for services rendered as carriers. In addition, however, considerable mail is carried on both the Atlantic and Pacific coasts, by steamships and steamship lines which are especially subsidized by the Government. Table 84, showing amounts so paid in 1929, 1930 and 1931, follows:—

84.—Mail Subsidies and Steamship Subventions, fiscal years ended Mar. 31, 1929-31.

NOTE.—The figures in the following table were supplied by F. E. Bawden, Esq., Secretary, Department of Trade and Commerce. They appear annually in the "Public Accounts", issued by the Finance Department and represent the amounts paid in connection with contracts made under statutory authority by the Department of Trade and Commerce for trade services, including the conveyance of mails.

Service.	1929.	1930.	1931.
	\$	\$	\$
Atlantic Ocean—			
Canada and South Africa.....	125,000	114,583	147,916
Eastern Canada and Brazil, Uruguay and the Argentine.....	100,000	110,000	120,000
Canada and British East Africa.....	—	—	82,500
Pacific Ocean—			
British Columbia, Australia and China.....	—	61,600	84,700
Canada and New Zealand, on the Pacific.....	103,183	100,000	100,000
Prince Rupert, B.C. and the Queen Charlotte islands.....	21,000	21,000	21,000
Vancouver and the British West Indies.....	27,000	33,000	47,100
Vancouver and ports on Howe sound.....	5,000	5,000	5,000
Vancouver and northern ports of British Columbia.....	24,800	24,800	24,800
Victoria, Vancouver, way ports and Skagway.....	25,000	25,893	25,000
Victoria and west coast Vancouver island.....	15,000	15,000	15,000
Local Services—			
Baddeck and Iona.....	10,500	10,500	10,500
Charlottetown and Pictou.....	35,000	35,000	40,000
Charlottetown, Victoria and Holliday's Wharf.....	5,000	5,000	7,000
Dalhousie, N.B., and Carleton, Que.....	3,000	3,000	3,000
Grand Manan and the mainland.....	20,000	20,000	34,250
Halifax and bay of the St. Lawrence.....	2,400	4,800	3,600
Halifax, Canso and Guysboro.....	9,000	9,000	9,000
Halifax, LaHave and LaHave River ports.....	5,538	6,000	5,884
Halifax and Sherbrooke.....	1,500	1,500	1,485
Halifax, South Cape Breton and Bras d'Or Lake ports.....	5,000	5,000	5,000
Halifax, Spry Bay and Cape Breton ports.....	6,000	6,000	5,942
Halifax and west coast of Cape Breton.....	6,000	6,000	6,000
Ile aux Coudres and les Ebolements.....	—	—	1,418
Mainland, Miscou and Shippigan.....	2,000	2,000	2,000
Mulgrave, Arichat and Petit de Grat.....	12,868	14,285	14,776
Mulgrave and Canso.....	27,400	27,400	27,400
Mulgrave and Guysborough, calling at intermediate ports.....	14,000	13,955	14,000
Murray Bay and north shore (winter service).....	32,900	32,900	32,900
Newcastle, Neguac and Escuminac, calling at intermediate ports on the Miramichi river and bay.....	4,500	4,500	4,500
Parrsboro, Kingsport and Wolfville.....	5,000	5,000	5,000
Pelee island and the mainland.....	11,000	11,000	10,906
Pictou, Mulgrave and Cheticamp.....	11,000	11,000	11,000
Pictou, New Glasgow and Antigonish Co. ports.....	1,000	1,000	1,000
Pictou, Souris and the Magdalen islands.....	50,000	50,000	50,000
Port Mulgrave, St. Peters, Irish cove, and Marble mountain.....	10,350	10,139	10,350
Quebec, Natashquan and Harrington, and other ports on the north shore of the gulf of St. Lawrence.....	85,000	85,000	85,000
Quebec or Montreal and Gaspé, and other ports on the south shore of the gulf of St. Lawrence.....	60,000	60,000	60,000
Rimouski, Matane and the north shore of the lower St. Lawrence.....	—	—	49,990
Rimouski and Pointe aux Outardes.....	10,000	12,500	—
Rivière du Loup and Tadoussac, and other north shore ports.....	15,000	14,625	14,647
St. Catherine's bay and Tadoussac.....	4,663	5,000	5,000
Saint John and Bear river, and other way ports.....	2,000	2,000	2,000
Saint John and Bridgetown.....	1,000	1,000	1,000
Saint John and Centreville.....	764	—	—
Saint John and Digby.....	15,000	15,000	15,000
Saint John, Digby, Annapolis and Granville.....	2,000	2,000	2,000
Saint John and Margaretville, and other ports on the bay of Fundy.....	4,500	4,500	4,500
Saint John and Minas Basin ports.....	5,000	5,000	5,000
Saint John and St. Andrews, calling at intermediate ports.....	4,000	4,000	4,000
Saint John, Westport and Yarmouth, and other way ports.....	18,000	18,000	18,000
Saint John and Weymouth.....	1,500	1,500	—
Summersville, Burlington and Windsor, N.S.....	500	500	488
Sydney and bay of the St. Lawrence, calling at way ports.....	18,000	18,000	27,227
Sydney and Bras d'Or Lake ports, and ports on the west coast of Cape Breton.....	18,000	18,000	18,000
Sydney and Whyecocomagh.....	16,000	16,000	16,000
Trois Pistoles and Les Escoumains.....	1,000	—	—
Grant to the province of British Columbia for the improvement of the mail service on inland waters in that province.....	3,000	3,000	—
Inspection of subsidized steamship services.....	4,507	4,294	4,962
Totals.....	1,026,375	1,083,436	1,322,745

CHAPTER XIX.—LABOUR AND WAGES.¹

PART I.—LABOUR.

Section 1.—Occupations of the People.

This section, formerly appearing in the Labour and Wages chapter of the Year Book, has been transferred to the Population chapter, where a fairly extended analysis of the occupations of the people in 1921 appeared at pp. 134-147 of the 1929 Year Book.

Section 2.—The Dominion Department of Labour.

The Department of Labour of the Dominion Government was established in 1900 under the authority of the Conciliation Act, 1900 (63-64 Vict., c. 24). Its chief duties originally comprised the administration of certain provisions of this Statute designed to aid in the prevention and settlement of labour disputes, the administration of the Government's fair wage policy for the protection of workmen employed on Dominion Government contracts and on works aided by grants of public funds, the collection and classification of statistical and other information relative to conditions of labour, and the publication of a monthly periodical known as the *Labour Gazette*. From 1900 to 1909 the Department was administered by the Postmaster General, who was also Minister of Labour. It was constituted a separate Department under the Labour Department Act, 1909 (R.S.C. 1927, c. 111).

The work of the Department was greatly increased in 1907 by the passage of the Industrial Disputes Investigation Act (R.S.C. 1927, c. 112). At present the Department is also charged with the administration of an Act passed in 1918 known as the Employment Offices Co-ordination Act (R.S.C. 1927, c. 57), the Government Annuities Act of 1908 (R.S.C. 1927, c. 7), the Technical Education Act enacted in 1919 (R.S.C. 1927, c. 193), the White Phosphorus Matches Act of 1914 (R.S.C. 1927, c. 128), the Combines Investigation Act of 1923 (R.S.C. 1927, c. 26), the Old Age Pensions Act of 1927 (R.S.C. 1927, c. 156), the Fair Wages and Eight Hour Day Act of 1930 (20-21 Geo. V, c. 20), the Vocational Education Act, 1931 (21-22 Geo. V, c. 59), the Unemployment Relief Act of 1930 (21 Geo. V, c. 1) and the Unemployment and Farm Relief Act, 1931 (21-22 Geo. V, c. 58). The scope of the Department has increased in other directions, especially in the investigation of the cost of living and in connection with the International Labour Organization of the League of Nations. For a report of the operations of the Old Age Pensions Act, see p. 659 and for the proceedings of the Combines Investigation Act, 1923, see p. 671. For the operations of the Government Annuities Act of 1908 and the Technical Education Act, see the chapters on Insurance and Education, respectively.

Industrial Disputes Investigation Act.—The Industrial Disputes Investigation Act (R.S.C. 1927, c. 112), has attracted considerable favourable attention

¹The sections and subsections of this chapter, with the exceptions of Section 3; Section 7; and Section 9, Subsection 3; all of Part I, have been revised by, or under the direction of, H. H. Ward, Deputy Minister, Department of Labour, Ottawa. The information in Section 3, Part I, has been obtained through the courtesy of the provincial Departments of Labour or Bureaus of Labour, and that in Section 7, Part I, has been revised by the chairmen of the respective provincial Workmen's Compensation Boards.

from legislators and publicists throughout the world. As enacted in 1907, it forbids strikes and lockouts in industrial disputes affecting mines and public utilities until the matters in dispute have been dealt with by a board of conciliation and investigation consisting of three members, two appointed by the Minister of Labour on the recommendation of the respective parties to the dispute, the third on the recommendation of the first two, or, if they fail to agree, by the Minister himself. After their report has been made, either of the parties to the dispute may reject it and declare a strike or a lockout, a course adopted, however, only in a small percentage of cases. The machinery of the Act may be extended to other industries with the consent of the parties concerned. In January, 1925, a judgment was rendered by the Judicial Committee of the Privy Council declaring that the Act as it stood was not within the competence of the Dominion Parliament.¹ At the ensuing session of Parliament amendments were therefore made to the Statute, with the object of limiting its operation to matters not within exclusive provincial jurisdiction. It was also provided by these amendments that the Statute should apply in the case of "any dispute which is within the exclusive legislative jurisdiction of any Province and which by the legislation of the Province is made subject to the provisions of this Act".

The Legislatures of six of the provinces, namely, British Columbia, Alberta, Saskatchewan, Manitoba, New Brunswick and Nova Scotia, have taken advantage of this provision and enacted enabling legislation, by which the Dominion Industrial Disputes Investigation Act becomes operative in respect of disputes of the classes named in the Dominion law and otherwise within exclusive provincial jurisdiction.

A review of the proceedings under the Industrial Disputes Investigation Act from its enactment in March, 1907, to Mar. 31, 1931, shows that during the 24 years 752 applications were received for the establishment of boards of conciliation and investigation, as a result of which 509 boards were established. In all but 38 cases, strikes (or lockouts) were averted or ended.

Fair Wages Branch.—The Fair Wages Branch of the Department of Labour is charged with the preparation of fair wages conditions and schedules of minimum wage rates, which are inserted in Dominion Government contracts and must be adhered to by contractors in the execution of such works. The number of fair wage schedules prepared, from the adoption of the Fair Wages Resolutions in 1900 up to the end of the fiscal year 1930-31, was 5,598. The number of fair wage schedules and clauses furnished during the fiscal year 1930-31 was 459.

The fair wages policy of the Government of Canada was originally based on a resolution adopted by the House of Commons in 1900 and was expressed in an Order in Council adopted on June 7, 1922, and amended on April 9, 1924. As drawn up by Order in Council it was applied to contracts for building and construction operations, also to contracts for the manufacture of certain classes of Government supplies. The policy required that the current wages rates and working hours of the district should be observed in the case of all workmen employed, or, if there were no current rates or hours in existence, then fair and reasonable conditions in both respects. Contracts for railway construction to which the Dominion Government has granted financial aid, either by way of subsidy or guarantee, are likewise subject to fair wages conditions. The policy has, moreover, been extended

¹See page 241 of the *Labour Gazette* for February 1925, for text of judgment of the Judicial Committee of the Privy Council in regard to the validity of this Statute.

within recent years to cover contracts for works carried out by the several Harbour Commissions which have been aided by grant of public funds.

An Order in Council was passed on Dec. 3, 1929, providing for the payment of current wage rates to workmen employed in the construction, alteration, extension, maintenance and operation of works for the utilization of water powers under licence from the Dominion Government. The Fair Wages Clause was also inserted in an important agreement made by the Dominion Government with one of the paper companies for the cutting of pulpwood in the province of Manitoba, under which the company agreed to pay to those employed in the industry wage rates not less than those generally accepted as current in each trade or occupation in similar industries, and to maintain conditions of labour not less favourable than those prevailing in similar industries in the district.

On May 30, 1930, an Act of Parliament was adopted, known as the Fair Wage and Eight-Hour Day Act, 1930, which provides for the payment of current wages rates to all persons employed on contracts made with the Government of Canada for works of construction, remodelling, repair or demolition, provided that the wages in all cases shall be such as are fair and reasonable. This Statute also directed that the working hours of persons while so employed shall not exceed eight hours a day. It was further declared that the foregoing conditions are to be applied to all workmen employed by the Government itself on the construction, remodelling, repair or demolition of any work.

On Mar. 27, 1930, an Order in Council was passed providing that, except in cases where the work of employees was intermittent in character, or the application of the rule was not deemed to be practicable, or in the public interest, the hours of work of any Dominion Government employees who had up to that time been required to work more than eight hours daily should be reduced to eight hours a day, with a half holiday on Saturday.

The Department of Labour is frequently consulted by other Departments of the Government regarding the wage rates to be observed in connection with work undertaken on the day labour plan.

Labour Gazette.—A monthly publication, known as the *Labour Gazette*, has been issued by the Dominion Department of Labour since its establishment in 1900. It contains a monthly review of the industrial situation in Canada and the state of employment, including reports of the operations of the Employment Service of Canada in the various provinces, also information relative to: labour legislation, wage rates and hours of labour, wholesale and retail prices of staple commodities in Canada and other countries, labour disputes (including the proceedings under the Industrial Disputes Investigation Act), industrial accidents, legal decisions affecting labour, industrial training and technical education, proceedings under the Combines Investigation Act, and other matters of general or current industrial interest. The *Labour Gazette* is widely distributed throughout Canada, and the statistical and other information contained therein is constantly used in connection with wages and other issues between employers and workers. A subscription charge of 20c. per annum is made for this publication.

Labour Legislation.—Much attention is devoted to labour legislation. Information as to new laws enacted by the Dominion and the provinces is kept up to date, while notes or articles regarding their provisions are published in the *Labour Gazette*. Since 1917, the Department has published annual reports containing the text of Canadian labour laws enacted during each year, together with

an introduction summarizing this legislation under subject headings. The first of these reports was based on a consolidation of Dominion and provincial labour legislation as existing at the end of 1915, which was made from the most recent revised Statutes and the subsequent annual volumes of Statutes up to 1915, and which formed the Department's report on labour legislation for 1915. Reports on the labour laws enacted in the four succeeding years were published in regular order. In 1920 a further consolidation was brought out and annual reports supplementary thereto were issued in 1921, 1922, 1923, 1924, 1925 and 1926. A third consolidated report on labour legislation containing the texts of the Dominion and provincial labour laws up to the end of 1928, was issued in December, 1929. Supplements containing labour laws of 1929 were issued in 1930 and 1931, respectively. The Department of Labour has also published various articles dealing with provincial labour laws, indicating the extent to which these have been standardized and the differences which exist.

The advantage of uniformity in the laws relating to the welfare of persons engaged in industrial work in the several provinces was pointed out in June, 1919, by a Royal Commission on Industrial Relations, and this view was endorsed by a resolution of the National Industrial Conference held in September, 1919. A commission established in 1920, composed of representatives of the Dominion and Provincial Governments, of employers and of workers, to consider this subject met in Ottawa between April 26 and May 1, 1920, and formulated recommendations looking to greater uniformity in provincial laws relative to workmen's compensation, factory control, mining, and minimum wages for women and girls.

Joint Industrial Councils.—One section of the report of the Royal Commission of 1919 on Industrial Relations dealt with shop committees and industrial councils, the Commissioners urging the adoption in Canada of the principles underlying Whitley Councils and kindred systems. The subject was also discussed at the National Industrial Conference of 1919. The committee to which the matter was referred made a unanimous report, urging the necessity for greater co-operation between employer and employee and stating their belief that this end could be furthered by the establishment of joint industrial councils.

Under Order in Council P.C. 2232 of Dec. 22, 1928, there was established an Advisory Committee on the Civil Service Superannuation Act to advise the Treasury Board in respect to matters incidental to the administration of the Act. The Committee is composed of five representatives named by organizations of civil servants and five named by the Government, of whom three are named by the Department of Finance, one by the Department of Insurance and one by the Department of Justice. The Committee began its sessions in January, 1929, and is now functioning in connection with matters affecting the superannuation of public employees.

Section 3.—Provincial Labour Departments and Bureaus

The rapid industrial development at the end of the nineteenth century in Quebec and Ontario, the leading manufacturing provinces, brought with it the recognition of the need of special provincial offices to safeguard the interests of labour, with the result that the Ontario Bureau of Labour was established in 1904 and the Quebec Department of Public Works and Labour in 1905. In 1904 an Act was passed in New Brunswick providing for a Bureau of Labour but it

never became operative. Some years later, to cope with conditions created by the growth of industry in the West, Acts were passed providing for the creation of provincial Bureaus of Labour in Manitoba (1915), in British Columbia (1917), in Saskatchewan (1920), and in Alberta (1922).

The Quebec Department of Labour.—This Department was formerly known as the Department of Public Works and Labour, each division having a separate Deputy Minister, but at the session of 1921 the Legislature created each division a distinct Department.

Its duties include the institution and control of inquiries into important industrial questions and those relating to manufactures, and it may collect useful facts and statistics relating thereto, to be transmitted to the Quebec Bureau of Statistics. The Department is charged with the administration of provincial Acts respecting trade disputes, factory inspection, maintenance of fair wage clauses in Provincial Government contracts, superintendence of licensed registry offices for domestic workers, inspection of boilers and foundries, prevention of fires, establishment and maintenance of provincial employment offices, the issue of educational certificates to wage-earners under 16 years of age, together with the inspection of heating installations, steam, hot-water and hot-air furnaces. The Department's functions also include the qualification of electricians and contractors in that line of business, the qualification of stationary engineers and firemen, and the inspection of boilers registered under the Interprovincial Code, together with the registering of the blue prints in connection with the construction of boilers. The Department publishes annual reports outlining the work performed.

The Department of Labour of Ontario.—The Department of Labour of Ontario was established in 1919 and placed under the direction of a Minister and a Deputy Minister of Labour. This Department had its origin in the Bureau of Industries which had been formed in 1882 as a part of the activities of the Department of Agriculture, to collect and publish statistics relating to the industries of the province and (later) to administer the first Factory Act of Ontario proclaimed law in 1886. In 1900 a Bureau of Labour attached to the Department of Public Works was authorized to collect and publish information relating to employment, wages and hours, strikes, labour organizations and general conditions of labour. Several investigations were made regarding such matters and the first free employment offices were opened by the Bureau of Labour. In 1916 this Bureau was in turn superseded by the Trades and Labour Branch, also under the Ministry of Public Works but administered by a Superintendent. The establishment of the Branch had been recommended by the Ontario Commission on Unemployment and the expansion of the work undertaken by the Branch and the increase in the demands made upon its resources led to the creation of a special Department of the Government by the Department of Labour Act, 1919. Following certain changes in the Ontario Cabinet in September, 1930, the Honourable J. D. Monteith became Minister of Public Works and Labour.

The Department of Labour administers the following Acts: The Department of Labour Act; The Factory, Shop and Office Building Act; The Steam Boiler Act; The Operating Engineers Act; The Building Trades Protection Act; The Employment Agencies Act; The Apprenticeship Act; The Regulations respecting the Protection of Persons working in Compressed Air; The Regulations respecting the Protection of Persons working in Tunnels and Open Caissons; The Minimum Wage Act. The Department is required to maintain employment offices, to collect

information respecting employment, sanitary and other conditions in work places, wages and hours of work, and to study labour legislation in other parts of the British Empire and in foreign countries, as well as any suggested changes in the labour laws of Ontario. The representatives of the Department of Labour have right of access to offices, factories and other work places at any reasonable hour, and may be authorized to hold inquiries under the Public Inquiries Act. The Department publishes annual reports which cover the work of the officers employed in the administration of the various Acts assigned to it and contain much statistical and other information pertaining to labour. The Minimum Wage Act is administered by a board of five persons, two representing employers and two representing employees with an impartial chairman; two of the members are women.

Manitoba Bureau of Labour.—The Act of 1915, establishing the Manitoba Bureau of Labour, provided that it be attached to the Department of Public Works; an amendment of 1922, however, provided for its attachment to any other Department, as the Lieutenant-Governor in Council may determine.

The Bureau is established to co-operate with employers, trade unions and others. It is charged with the enforcement of the following Acts: The Manitoba Factories Act; The Bake Shops Act; The Building Trades Protection Act; The Fair Wage Act; The Electricians' Licence Act; The Elevator and Hoist Act; The Shops Regulation Act; The Public Buildings Act; The Minimum Wage Act; The Steam Boiler Act; the licensing of cinematograph projectionists under The Public Amusements Act; The Fires Prevention Act; The One Day Rest in Seven Act.

Saskatchewan Department of Railways, Labour and Industries.—This was created as a separate Department by an Act passed in 1928. It is presided over by the Minister of Railways, Labour and Industries, assisted by a permanent Deputy Minister. The functions of the Department include the administration of the following Acts: The Factories Act and Elevator Regulations, The Steam Boilers Act, The Building Trades Protection Act, The Act protecting the payment of wages to certain employees, The Mines Safety and Welfare Act, The Minimum Wage Act, and the Order in Council respecting fair wages in government contracts; also of all matters connected with railways over which the Government of Saskatchewan by any Act may have control. It is also charged with the operation of public free employment offices; the collection and publication of statistics relating to employment; wages and hours of labour throughout the province; strikes and other difficulties; trade unions and labour organizations; the relations between capital and labour, and other subjects connected with industrial problems; the commercial, industrial and sanitary conditions of employment; raw products of Saskatchewan and their industrial possibilities; and such other matters as may be related to industrial development.

Alberta Bureau of Labour.—The Act of 1922, creating the Alberta Bureau of Labour, provided that the Bureau be in charge of a Minister having under him a Commissioner of Labour. The latter is empowered to collect and publish information and statistics affecting labour, and to administer such Acts as may be assigned to the Bureau by Order in Council. Important among these Acts are: The Alberta Government Employment Bureau Act; The Minimum Wage Act; The Boilers Act; The Factories Act; The Theatres Act; The Trades Schools Act. The Bureau issues annual reports.

The British Columbia Department of Labour.—This Department was instituted by an Act of 1917, under a Minister and Deputy Minister of Labour. It administers the laws of British Columbia affecting labour, and is empowered to collect information respecting industries, wages, employment, prices, labour organizations and other data pertaining to labour problems. Prominent among the Acts under the jurisdiction of the Department are: The Minimum Wage Act for Female Employees; The Male Minimum Wage Act (passed in 1929); The Hours of Work Act; The Semi-Monthly Payment of Wages Act; The Factories Act. The Department also operates the employment bureaus within the province. The Deputy Minister of Labour is *ex officio* Chairman of the Board of Adjustment under the Hours of Work Act, of 1923, which, with exceptions, provides for the eight-hour working day in industry; he is also Chairman of the Male Minimum Wage Board. Annual reports are published by the Department, containing much information respecting labour matters.

Section 4.—Canada and the International Labour Organization.¹

The International Labour Organization of the League of Nations was set up in accordance with Part XIII of the Treaties of Peace, to promote the improvement of industrial conditions by legislative action and international agreement.

The Organization comprises the Permanent International Labour Office in Geneva, Switzerland, and the International Labour Conference, which meets annually and is composed of four representatives of each Member State, two of whom are government delegates, while two represent the employers and the employed respectively. Fifty-five countries are members of the International Labour Organization, including all of the important industrial countries of the world except the United States.

The International Labour Office functions as a secretariat of the annual conference, and also collects and publishes information on subjects relating to industrial life and labour. The Office is under the control of a Governing Body consisting of 24 persons, appointed by the International Labour Conference, of whom 12 represent Governments, 6 represent employers and 6 represent workers. In addition to its control of the Labour Office, the Governing Body is charged with the preparation of the agenda of the annual conference.

Under the terms of the Peace Treaties, eight of the government seats on the Governing Body are held by the countries of "chief industrial importance". Canada was designated by the Council of the League of Nations as one of the eight states of "chief industrial importance". The Minister of Labour is the Government representative on this body. Mr. Tom Moore, President of the Trades and Labour Congress of Canada, is one of the six workers' representatives on the Governing Body.

The conclusions of the International Labour Conference are cast in the form of draft conventions or recommendations, addressed to the national Governments which comprise the membership of the International Labour Organization. A two-thirds majority of the Conference is required for the adoption of either a draft convention or recommendation. Under the Treaties of Peace, the Member States

¹On this subject see also the 1921 Year Book, pp. 607-609; 1922-23 Year Book, pp. 704-707; 1924 Year Book, pp. 666-670; 1925 Year Book, pp. 676-678; 1926 Year Book, pp. 679-681; 1927-28 Year Book, pp. 735-737; 1929 Year Book, pp. 725-727; 1930 Year Book, pp. 710-712 and the 1931 Year Book, pp. 753-755.

are bound to bring the draft conventions or recommendations before the authority or authorities within whose competence the subject matter lies, for the enactment of legislation or other action. Thus the findings of the Conference only become binding in the various countries concerned if and when action regarding them is taken by the latter.

Most of the proposals dealt with in the successive meetings of the Labour Conference since its establishment in 1919 have been adjudged by the law officers of the Crown in Canada to fall within provincial jurisdiction. The draft conventions and recommendations of the Conference have in all cases been brought to the attention of the Dominion Parliament, while those which dealt with subjects within provincial control were also referred to the Provincial Governments.

The Dominion Department of Labour is entrusted with the duties arising out of the relations of Canada with the International Labour Organization. These have entailed much correspondence, not only with the International Labour Organization but also with the different Departments of the Dominion Government, with the provinces, and with employers' and workers' organizations. Replies have also been prepared in the Department of Labour to various questionnaires issued by the International Labour Office. Performance of these duties has necessitated a close study of the different technical questions which have figured on the agenda of the various conferences and at the meetings of the Governing Body. A bulletin entitled "Canada and the International Labour Conference", issued by the Department of Labour in February, 1922, furnished information respecting the International Labour Organization. Comprehensive articles dealing with the proceedings of the annual sessions of the International Conference have been published from year to year in the *Labour Gazette*. These articles contain the text of the various draft conventions and recommendations of this Conference.

Fifteen sessions of the International Labour Conference have been held. Thirty-one draft conventions and 39 recommendations have been adopted at these annual gatherings.

The draft conventions and recommendations of the Conference have, among other subjects, related to the following: hours of labour, measures for the avoidance of unemployment, employment conditions of women and children, employment conditions of seamen, employment in agriculture, weekly rest, statistics of immigration and emigration, principles of factory inspection, inspection of emigrants on board ship, workmen's compensation for accidents and occupational diseases, sickness insurance, minimum wages, prevention of accidents to dockers, forced labour and regulation of hours of work of salaried employees and of workers in coal mines.

Up to December, 1931, 447 ratifications of these conventions had been registered with the League of Nations, of which 7 were conditional or with delayed application; 49 had been approved by the competent national authority and 125 had been recommended to the competent national authority for approval.

Canadian Action on Draft Conventions and Recommendations.—The action taken by the Dominion and the Provincial Governments on the draft conventions and recommendations of the International Labour Conference has been summarized in the articles on this subject published in previous Year Books and referred to in the footnote on p. 633.

Section 5.—Organized Labour in Canada.

The Dominion Department of Labour publishes an annual report on labour organization; this sets out the various branches of unionism in existence, the principles on which they are founded, their chief activities, and statistics of the different groups comprised in the trade unions of the Dominion. Reference is also made in this annual report to the principal international labour organizations with which the organized workers of Canada are affiliated.

Trade unionism in Canada occupies a unique position, by reason of the fact that most organized workers in the Dominion are members of organizations whose headquarters are located in a foreign country, *viz.*, the United States. This condition is explained when it is understood that workers move freely from one country to the other in order to find employment. In years gone by Canadian workmen who sought a livelihood in the United States greatly outnumbered those who came from that country to Canada. As industry was further developed in the United States there arose a number of unions of various crafts, and with these the Canadian workers soon became affiliated. With the development of industry in the Dominion, many of these Canadians returned to their native land, bringing with them the gospel of trade unionism and collective bargaining as a means of protecting their rights. In many instances these trade unionists became the nuclei of strong bodies of organized workers formed in Canadian cities.

The usual résumé of the origin and growth of the trades union movement in Canada has been omitted in this edition, owing to considerations of space. The interested reader is referred to pp. 712-714 of the 1930 edition of the Year Book and to "Labour Organization in Canada, 1930", published by the Dominion Department of Labour. This latter publication presents the history and present organization of trades unionism in the Dominion in a very comprehensive manner. The following paragraphs give a short sketch of the present organization of the five main groups into which Canadian labour organizations now fall.

Trades and Labour Congress of Canada.—Through the initiative of the Toronto Trades Assembly (now the Toronto District Trades and Labour Council), the first national labour organization, the Canadian Labour Union, was formed in Toronto in September, 1873. This organization held its second and third annual meetings in 1874 and 1875, but disappeared as a result of the serious depression of the later '70's. In 1883 the Trades and Labour Council of Toronto, feeling the necessity of the wage-earners of Canada having a medium through which to express their opinions, assumed the responsibility of calling another trades and labour congress, which met in Toronto on Dec. 26, with 47 delegates. On the summons of the Toronto Council, a second meeting, with 109 delegates, assembled on Sept. 14, 1886, the first occasion on which any labour body outside of the province of Ontario was represented. A permanent organization was effected at this meeting under the name of "Trades and Labour Congress of the Dominion of Canada". This was the title of the organization until 1895, when the title "Trades and Labour Congress of Canada" was adopted in preference to "Canadian Federation of Labour". Since 1886 conventions have been held annually, the 1930 meeting in Regina being counted as the 46th. The Trades and Labour Congress is representative of international trade unionism in the Dominion, the bulk of its membership being drawn from the international organizations which have local branches in Canada. According to reports for 1930, the Congress received payment of per capita tax on the Canadian membership of 61 international bodies and also from two national organiza-

tions which had their entire membership in the Dominion; the combined membership being 130,417 comprised in 1,519 local branches. With other affiliations and unions directly under charter, the Congress had at the close of 1930 a total membership of 137,734 in 1,561 branches.

All-Canadian Congress of Labour.—The All-Canadian Congress of Labour was organized Mar. 16, 1927, by labour bodies not eligible for membership in the old established Trades and Labour Congress of Canada. One of the promoters of the new body was the Canadian Federation of Labour, which was formed as a result of the expulsion from the Trades and Labour Congress of Canada of Knights of Labour assemblies and all other unions which were composed of members of crafts over which existing international organizations claimed jurisdiction. With the formation of the All-Canadian Congress of Labour the Canadian Federation passed out of existence. At the close of 1930 the All-Canadian Congress of Labour had eleven central bodies in affiliation, with a combined membership of 23,984, as well as 27 directly chartered local unions, with a membership of 3,979, making a total combined reported membership of 27,963.

Membership of International Organizations in Canada.—At the close of 1930 there were 84 international craft organizations having one or more local branch unions in Canada, one less than the number recorded in 1929. These bodies among them had 1,946 local branches in the Dominion with 203,478 members. The membership of the two industrial unions with branches in the Dominion was 27,465 comprised in 51 branches. Thus the total international trade union membership in Canada at the close of 1930 was 230,943. The international craft organizations represent approximately 63 p.c. of the total of all classes of workers in the Dominion organized under trade union auspices (Table 2).

Canadian Central Labour Bodies.—There are in Canada 27 Canadian central labour bodies, 20 of which are in direct opposition to the international organizations. In some instances these Canadian central labour bodies have been formed by secessionists from international unions. The combined membership of the Canadian central labour organizations on Dec. 31, 1930, was 57,168, comprised in 673 local branches (Table 3).

Membership of Independent Units.—There are 31 independent local labour bodies in the Dominion, 29 of which had a membership of 9,338 at the end of 1930, the remaining two not reporting.

Federation of Catholic Workers of Canada.—During the period when the Knights of Labour operated in Quebec, there existed also four independent unions, one of labourers and three of leather and shoe workers. Up to 1902 these several bodies were represented at the annual conventions of the Trades and Labour Congress of Canada. In that year, in an effort to eliminate a duplication of unions and bring the independent bodies under the banner of the international organizations, the Trades Congress denied them further representation. The Knights of Labour assemblies gradually disappeared, but the independent unions continued to exist. Up to the time of the expulsion by the Trades Congress of those bodies which were outside the ranks of the international organizations there was only one Catholic union, that composed of shoe workers in the city of Quebec, which had accepted the social doctrine of the Roman Catholic Church and admitted a chaplain (a member of the clergy), this course being adopted in 1901 following the adjustment of a dispute in the shoe industry in that city by the archbishop of the diocese. Some years later a number of other national unions were formed in the province of Quebec.

all of which accepted for their guidance the declarations of Pope Leo XIII, who on May 15, 1891, issued an encyclical on "The Condition of the Working Classes", the provisions of which were subsequently proclaimed by Pope Pius X as fundamental rules for workingmen's associations. In 1918 a conference of national unions was held in Quebec city, followed by other meetings in Three Rivers in 1919 and Chicoutimi in 1920; the delegates at the latter conference, numbering 225 from 120 unions, decided to establish a permanent central body to co-ordinate the work of the scattered units. Accordingly, at the 1921 conference held in Hull, at which approximately 200 delegates representing 89 unions were present, a constitution to govern the new body was approved. The name selected was Federation of Catholic Workers of Canada and permanent officers were elected, the constitution and by-laws becoming effective on Jan. 1, 1922. From information at hand, there are 108 National Catholic unions with a combined membership of 25,000.

One Big Union.—A number of delegates from Western Canada to the Quebec convention of 1918, dissatisfied with the alleged reactionary policy of the Trades and Labour Congress of Canada, held a caucus at which it was decided to concentrate their energies towards having the Trades Congress legislate in accordance with their views. Some months later a meeting of delegates was called by the British Columbia Federation of Labour to assemble immediately following the annual convention of that body, which, for the first time in its history, met outside of the province under its jurisdiction, in Calgary. The conference assembled on Mar. 13, 1919, with 239 delegates present; the outcome of the meeting was the formation of an industrial organization, the "One Big Union". On June 11, 1919, a conference of the advocates of the new body was held in Calgary to further the plans of the organization, which had a membership of 41,150 at the close of 1919. From the outset the O.B.U. met with much opposition from the old-established labour unions, represented by the Trades and Labour Congress of Canada, which was opposed to the substitution of industrial unionism for the existing system of craft unions. According to information supplied the Department by the general secretary, the O.B.U. at the close of 1930 had 45 units under charter, one of which was located in the United States, as well as two central labour councils (bodies similar to trades and labour councils), the combined reported membership being 23,724.

Total Reported Membership of Organized Labour in Canada.—At the close of 1930 the numerical strength of organized labour in Canada was given by the Department of Labour as follows: international organizations, 1,997 local branches with an aggregate membership of 230,943; Canadian central labour bodies, 673 branches and 57,168 members; independent units, 31 with 9,338 members; National Catholic unions, 108 with 25,000 members; grand total, 2,809 local branches and 322,449 members. As compared with 1929, this represents an increase of 31 branches and of 2,973 members.

Table 1 shows by years the membership of trade unions in Canada since 1911.

1.—Membership of Trade Unions in Canada, 1911-30.

Year.	Members.	Year.	Members.
1911.....	133,132	1921.....	313,320
1912.....	160,120	1922.....	276,621
1913.....	175,799	1923.....	278,092
1914.....	166,163	1924.....	260,643
1915.....	143,343	1925.....	271,064
1916.....	160,407	1926.....	274,064
1917.....	204,630	1927.....	290,282
1918.....	248,887	1928.....	300,602
1919.....	378,047	1929.....	319,476
1920.....	373,842	1930.....	322,449

International Trade Unions Operating in Canada.—Table 2 gives the names of the 84 international craft labour organizations and the two industrial unions which now carry on operations in Canada, and shows: (1) the number of branches which were in existence in the Dominion at the close of 1930, and (2) the reported membership. The reported figures in Tables 2 and 3 are given in italics where the information has been obtained from sources other than the headquarters of the indicated organization.

2.—International Trade Unions Operating in Canada.

NUMBER OF BRANCHES AND NUMBER OF MEMBERS IN CANADA, DECEMBER, 1930.

International Organization.	No. of Branches in Canada.	Reported Members in Canada.
American Federation of Labour.....	5	113
Asbestos Workers, International Association of Heat and Frost Insulators and...	4	181
Bakery and Confectionery Workers' International Union of America.....	7	304
Barbers' International Union of America, Journeymen.....	35	1,588
Bill Posters and Billers of America, International Alliance of.....	3	300
Blacksmiths, Drop Forgers and Helpers, International Brotherhood of.....	22	1,290
Boilermakers, Iron Shipbuilders and Helpers, International Brotherhood of.....	37	2,930
Bookbinders, International Brotherhood of.....	11	849
Boot and Shoe Workers' Union.....	9	1,114
Brewery, Flour, Cereal and Soft Drink Workers, International Union of the United.....	17	800
Bricklayers, Masons' and Plasterers' International Union of America.....	56	5,500
Bridge, Structural and Ornamental Iron Workers, International Association of...	11	588
Broom and Whisk Makers' Union, International.....	—	—
Carpenters and Joiners of America, United Brotherhood of.....	80	13,900
Carvers' Association of America, International Wood.....	1	28
Cigarmakers' International Union of America.....	5	290
Cloth Hat, Cap and Millinery Workers' International Union.....	4	240
Clothing Workers of America, Amalgamated.....	15	7,000
Commercial Telegraphers' Union of America.....	6	1,840
Conductors, Order of Sleeping Car.....	1	10
Electrical Workers, International Brotherhood of.....	43	4,000
Elevator Constructors, International Union of.....	7	350
Engineers, International Union of Operating.....	35	1,940
Firemen and Oilers, International Brotherhood of.....	58	910
Fire Fighters, International Association of.....	20	2,490
Fur Workers' Union, International.....	7	2,000
Garment Workers of America, United.....	7	1,000
Garment Workers' Union, International Ladies'.....	10	3,550
Glass Bottle Blowers' Association of the United States and Canada.....	7	150
Glass Workers' Union, American Flint.....	3	100
Glove Workers' Union, International.....	—	—
Granite Cutters' International Association of America.....	4	200
Hod Carriers', Building and Common Labourers' Union of America, Inter- national.....	10	600
Hotel and Restaurant Employees and Beverage Dispensers' International Alliance.....	15	1,300
Iron, Steel and Tin Workers of North America, Amalgamated Association of...	1	—
Jewellery Workers' Union, International.....	2	300
Lathers, International Union of Wood, Wire and Metal.....	12	300
Leather Workers' International Union, United.....	1	—
Lithographers of America, Amalgamated.....	7	400
Locomotive Engineers, Brotherhood of.....	102	5,000
Locomotive Firemen and Enginemen, Brotherhood of.....	103	7,100
Longshoremen's Association, International.....	10	1,000
Machinists, International Association of.....	82	8,000
Maintenance-of-Way Employees, Brotherhood of.....	195	16,000
Marble, Stone and Slate Polishers, Rubbers and Sawyers, Tile and Marble Setters' Helpers and Terrazzo Workers' Helpers, International Association of.....	2	100
Meat Cutters and Butcher Workmen, Amalgamated.....	1	—
Metal Polishers' International Union.....	4	—
Metal Workers' International Association, Sheet.....	19	1,000
Mine Workers of America, United.....	42	16,000
Moulders' Union of North America, International.....	32	2,000
Musicians, American Federation of.....	37	5,000
Painters, Decorators and Paperhangers of America, Brotherhood of.....	36	2,100
Papermakers, International Brotherhood of.....	33	1,800
Pattern Makers' League of North America.....	14	—
Paving Cutters' Union of the United States and Canada.....	5	—
Photo-Engravers' Union of North America, International.....	6	—
Piano, Organ and Musical Instrument Workers' International Union.....	1	—
Plasterers' and Cement Finishers' International Association, Operative.....	19	1,000
Plumbers, Gas and Steam Fitters, United Association of Journeymen.....	36	2,000

2.—International Trade Unions operating in Canada—concluded.

International Organization.	No. of Branches in Canada.	Reported Members in Canada.
Porters, Brotherhood of Sleeping Car.....	—	29
Printers, Die Stampers and Engravers' Union, International Plate.....	1	43
Printing Pressmen and Assistants' Union, International.....	20	4,500
Pulp, Sulphite and Paper Mill Workers of the United States and Canada, International Brotherhood of.....	14	1,525
Quarry Workers' International Union of North America.....	1	50
Railroad Signalmen of America, Brotherhood of.....	9	300
Railroad Telegraphers, Order of.....	12	8,317
Railroad Trainmen, Brotherhood of.....	93	15,016
Railway Carmen of America, Brotherhood of.....	116	14,351
Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, Brotherhood of.....	69	4,437
Railway Conductors, Order of.....	71	3,312
Railway, Bus and Coach Employees of America, Amalgamated Association of Street and Electric.....	26	9,978
Retail Clerks' International Protective Association.....	4	303
Seamen's Union of America, International.....	1	250
Stenographers, International Association of.....	1	11
Stage Employees, International Alliance of Theatrical.....	33	800
Stereotypers' and Electrotypers' Union, International.....	10	328
Stonecutters' Association of North America, Journeymen.....	17	500
Switchmen's Union of North America.....	7	97
Teamsters' Union of America, Journeymen.....	13	285
Teamsters, Chauffeurs, Stablemen and Helpers, International Brotherhood of Textile Workers of America, United (including American Federation of Full Fashioned Hosiery Workers).....	11	1,200
Train Despatchers' Association, American.....	2	100
Typographical Union, International.....	—	15
Typographical Union, International.....	49	4,709
Upholsterers' International Union of America.....	4	280
Totals.....	1,946	203,478
United Mine Workers of America.....	45	23,724
Industrial Workers of the World.....	6	3,741
Grand Totals.....	1,997	230,943

Table 3 gives the number of branches and the members of Canadian central labour bodies operating in Canada at the close of 1930.

3.—Canadian Central Labour Bodies Operating in Canada.

NUMBER OF BRANCHES AND NUMBER OF MEMBERS, 1930.

Organization.	No. of Branches or Affiliations.	Members Reported.
Canadian Trades and Labour Congress of Canada.....	42	7,317
Ontario Canadian Congress of Labour.....	27	3,979
Amalgamated Building Workers of Canada.....	5	440
Amalgamated Carpenters of Canada.....	14	1,802
Amalgamated Civil Servants of Canada.....	40	4,668
Brotherhood of Canadian Pacific Express Employees.....	26	1,567
Canadian Association of Railway Enginemen.....	42	711
Canadian Association of Stationary Engineers.....	11	550
Canadian Broker and Leased Wire Telegraphers' Association.....	—	75
Canadian Brotherhood of Railway Employees.....	246	19,352
Canadian Carpet Weavers' Beneficial Association.....	6	170
Canadian Electrical Trades' Union.....	5	295
Canadian Ironworkers' Piledrivers' and Riggers' Union.....	1	178
Canadian Printers' Union.....	—	37
Canadian Theatrical Arts and Crafts Society.....	—	94
Civil Service Association of Alberta.....	11	700
Dominion Railway Mail Clerks' Federation.....	15	963
Electrical Communication Workers of Canada.....	2	180
Federated Association of Letter Carriers.....	42	1,400
Federated Seafarers' Union of Canada.....	1	730
Industrial Union of Needle Trades' Workers of Canada.....	—	500
Labour and Agricultural Workers' Industrial Union of Canada.....	31	2,400
Marine Workers' Union of Canada.....	18	4,380
National Association of Marine Engineers.....	16	1,383
National Union of Painters, Decorators and Paperhangers of Canada.....	4	186
Provincial Federation of Ontario Fire Fighters.....	26	726
Saskatchewan Brotherhood of Steam and Operating Engineers.....	2	34
United Postal Employees of Canada.....	39	1,618
Vancouver and District Waterfront Workers' Association.....	1	728
Totals.....	673	57,168

Section 6.—Fatal Industrial Accidents.

Statistics of fatal industrial accidents have been compiled by the Dominion Department of Labour since 1903, the data being obtained from provincial Workmen's Compensation Boards, the Board of Railway Commissioners for Canada and various other governmental authorities, from departmental correspondence and from press clippings. Table 4 shows the number of fatal industrial accidents reported to the Department during each year from 1927 to 1931 inclusive. The number of fatalities in each of the different industries is also shown as a percentage of the total number. Preliminary figures show 1,135 fatal industrial accidents in 1931.

4.—Fatal Industrial Accidents in Canada, by Industries, 1927-31.

Industry.	Number of Fatal Accidents.					Per cent of Total Accidents.				
	1927.	1928.	1929.	1930.	1931 ¹ .	1927.	1928.	1929.	1930.	1931 ² .
Agriculture.....	162	194	156	122	162	11.4	11.6	8.8	7.5	14.1
Logging.....	164	176	235	175	73	11.6	10.5	13.3	10.4	6.5
Fishing and trapping.....	125	43	54	36	33	8.8	2.5	3.1	2.2	2.9
Mining, non-ferrous smelting and quarrying.....	168	260	234	258	154	11.9	15.5	13.2	16.0	13.5
Manufacturing.....	153	201	250	196	129	10.8	12.0	14.2	11.8	11.4
Construction.....	189	250	298	324	206	13.4	14.9	16.9	19.4	18.2
Electric light and power ²	—	—	—	42	44	—	—	—	2.5	3.9
Transportation and public utilities.....	322	387	366	327	199	22.8	23.1	20.7	19.7	17.5
Trade.....	27	64	58	53	41	1.9	3.8	3.3	3.4	3.6
Service.....	104	102	114	117	91	7.3	6.1	6.4	7.1	8.1
Miscellaneous.....	1	—	1	—	3	0.1	—	0.1	—	0.3
Totals.....	1,415	1,677	1,766	1,655	1,135	100.0	100.0	100.0	100.0	100.0

¹ Figures subject to revision.

² Previously reported under Transportation and Public Utilities.

Causes of Fatal Accidents.—The classification of fatal accidents according to causes shows that the largest number, 292, came under the category "by moving trains, vehicles, etc". This includes all accidents due to cars or engines, including mine and quarry cars, and to automobiles and other power vehicles and horse drawn vehicles, as well as accidents caused by moving implements, by moving watercraft and by aircraft. Next in order as a cause came "falls of persons", 231 in number, including those who fell from some elevation and those who fell into pits, shafts, holds of vessels, harbours, rivers, etc. "Dangerous substances" including electric current, explosives, hot and inflammable substances, gas fumes, boiler explosions, etc., caused 165 fatalities. Fatalities numbering 145 were caused by falling objects. Animals caused 43 fatalities, including 29 caused by horses. Twenty-nine fatalities were caused by handling of heavy or sharp objects, 27 by prime movers, 21 by working machines, 13 by hoisting apparatus, 27 due to industrial diseases, 29 by shooting and violence, 42 to cave-ins, and 36 to lightning, frost, storms and strokes.

Section 7.—Workmen's Compensation in Canada.

An account of the development of workmen's compensation legislation in Canada from employers' liability legislation was given at pp. 744-746 of the 1928 Year Book, while a summary of the 1931 legislation with regard to workmen's compensation appears in the general sketch of labour legislation in Canada at pp. 668-71 of the current edition. Details regarding the operation of the various Workmen's Compensation Boards of the Provinces are given below.

Operations of the Workmen's Compensation Boards.—Nova Scotia—The Workmen's Compensation Act was passed in 1915 but only became effective on Jan. 1, 1917. During the fourteen years between that date and Dec. 31, 1930, accidents to the number of 102,156 were reported to the Board, of which 88,620 were compensated as per Table 5. Prior to Jan. 1, 1920, medical aid was only furnished in special cases.

5.—Compensation Paid and Accidents Compensated by the Nova Scotia Workmen's Compensation Board, 1917-30.

(Estimates for outstanding claims not included.)

Year.	Compensation.	Medical aid.	Total.	Accidents Compensated.
	\$	\$	\$	No.
1917.....	503,258	202	503,460	4,836
1918.....	826,740	—	826,740	4,931
1919.....	629,156	491	629,647	4,949
1920.....	1,135,235	36,561	1,171,796	7,116
1921.....	705,752	36,296	742,048	4,903
1922.....	576,906	40,147	617,053	5,022
1923.....	808,560	56,484	865,044	6,248
1924.....	874,478	63,974	938,452	5,786
1925.....	638,787	68,740	707,527	5,340
1926.....	875,940	84,122	960,062	6,652
1927.....	1,052,303	88,978	1,141,281	6,871
1928.....	1,076,074	95,069	1,171,143	7,666
1929.....	936,210	117,632	1,053,842	9,479
1930.....	879,828	129,399	1,009,227	8,821

New Brunswick.—The Workmen's Compensation Act of New Brunswick was passed in 1918. It extends to a wide range of industries, and is administered by a Board of three persons, levying assessments and paying benefits. For the sums paid out annually from 1920 as compensation and for medical aid see Table 6.

6.—Compensation Paid by the New Brunswick Workmen's Compensation Board, 1920-30.

Year.	Weekly Compensation.	Permanent Partial Disability.	Fatal.		Medical Aid.		Permanent Total Disability Reserve.
			Funeral Expenses.	Reserve for Pensions.	Doctors' Fees and Transportation.	Hospital and Nursing Service.	
	\$	\$	\$	\$	\$	\$	\$
1920.....	195,063	73,440	1,799	128,158	39,324	15,606	—
1921.....	159,096	103,054	3,661	188,945	56,631	22,378	—
1922.....	162,988	84,316	2,906	124,088	76,046	31,568	—
1923.....	204,353	90,349	3,573	130,339	83,530	35,935	—
1924.....	203,946	113,555	3,425	162,740	87,261	41,528	—
1925.....	186,946	90,044	2,784	144,285	84,897	38,920	—
1926.....	185,624	76,780	2,033	93,838	73,149	40,293	—
1927.....	211,692	103,430	2,427	88,299	79,481	43,894	—
1928.....	217,890	116,208	3,141	127,490	80,212	51,984	—
1929.....	243,770	99,266	3,388	137,667	85,238	59,217	—
1930.....	199,313	92,344	2,682	116,055	77,722	54,172	6,237

Quebec.—The Quebec Workmen's Compensation Commission was established in 1923 by authority of c. 80 of the Statutes of that year. The Act was brought into force by proclamation on June 9, 1928, operations of the Commission commencing as of Sept. 1, 1928.

The Quebec Commission does not itself insure employers against their liability under the Act, employers being required to insure in an approved company, although certain large corporations are permitted to practise self-assurance. Table 7 shows the operations of the Commission from Sept. 1, 1928 to Aug. 31, 1931.

7.—Compensation Paid and Accidents Compensated by the Quebec Workmen's Compensation Commission, 1928-31.

Year.	Claims.	Accidents Compensated.	Compensation Paid.
	No.	No.	\$
1928 (4 months).....	8,266	2,625	209,35
1929.....	25,610	21,377	3,229,35
1930.....	20,900	19,850	3,792,54
1931 (8 months).....	12,420	13,204	2,758,78

Ontario.—Under the system operated by the Ontario Workmen's Compensation Board in schedule 1, where the liability is collective, 24 classes of industries put various percentages of their payrolls annually to the Board and escape individual civil liability for accidents and certain specified industrial diseases. The percentage of payroll collected by the Board is graded according to the degree of hazard in the occupation and ranged in 1930 from 10 cents per \$100 of payroll in blue-printing to \$10 per \$100 in wrecking of buildings, erection of high metal chimneys, etc., and aerial testing. The average for all classes was \$1.34 per \$100 of payrolls which amounted to \$472,742,000. Certain other industries under schedule 2, including municipal undertakings, railways, car shops, telegraphs, telephones, etc., are made individually liable to pay the rates of compensation fixed under the Act. Employees of the Dominion or of the province, killed or injured in the discharge of their duty are by special legislation placed on the same footing as those of private employers of the second class.

Statistics of the benefits awarded and the accidents to workers reported during the first 17 years of the operation of the Act appear in Table 8. The 48,882 accidents paid for during the year 1931 included: 266 cases of death, 23 of permanent total disability, 2,679 of permanent partial disability, 23,112 of temporary disability and 22,802 in which medical aid only was provided. These latter are all under schedule 1, as medical aid in schedule 2 cases and Crown cases is furnished directly by the employer.

8.—Benefits Awarded and Accidents Reported by the Ontario Workmen's Compensation Board, 1915-31.

Year.	Benefits Awarded.				Accidents Reported.			
	Schedule 1.		Schedule 2 and Crown Compensation.	Total Benefits.	Schedule 1.	Schedule 2.	Crown.	Total.
	Compensation.	Medical Aid.						
	\$	\$	\$	\$	No.	No.	No.	No.
1915.....	692,389	1	200,932	893,321	13,878	3,144	11	17,033
1916.....	1,553,653	1	451,710	2,005,363	21,269	4,806	17	26,092
1917.....	2,286,955	83,514 ²	623,556	2,994,025	30,701	5,813	18	36,532
1918.....	2,751,137	369,346	763,511	3,883,995	40,662	7,113	73	47,848
1919.....	2,808,639	386,299	997,923	4,192,869	36,236	7,918	106	44,260
1920.....	5,113,150	703,706	1,963,390	7,780,245	46,177	7,222	1,452	54,851
1921.....	3,858,017	662,794	1,668,452	6,189,264	36,272	7,666	1,253	45,191
1922.....	3,417,102	692,820	1,582,976	5,692,897	42,139	7,124	1,148	50,411
1923.....	4,036,170	788,906	1,348,786	6,173,862	51,655	6,080	3,374	61,109
1924.....	4,052,288	835,956	1,234,576	6,122,820	49,558	4,916	4,201	58,675
1925.....	3,635,530	875,836	1,054,077	5,565,443	50,883	5,079	4,050	60,012
1926.....	3,664,040	988,487	1,168,825	5,821,352	57,032	4,942	3,942	65,916
1927.....	3,930,418	1,062,960	1,091,378	6,084,655	62,003	5,412	4,504	71,919
1928.....	4,565,689	1,166,508	1,335,751	7,067,948	69,011	5,815	4,572	79,398
1929.....	5,346,621	1,385,525	1,289,012	8,012,158	76,029	6,008	5,066	87,103
1930.....	4,912,756	1,336,046	1,144,216	7,423,013	61,490	4,485	3,291	69,266
1931.....	3,917,045	1,060,763	1,043,594	6,021,392	46,069	3,348	3,477	52,894

¹ No provision for medical aid.² Half year only.

Manitoba.—Under the Workmen's Compensation Act, which came into force Mar. 1, 1917, Part 1 of the Act, dealing with workmen in hazardous occupations, is administered by The Workmen's Compensation Board, which charges insurance rates according to the hazard of the industry, the sums received by the workman being in lieu of the rights of action previously existing. The province, the city of Winnipeg, and certain corporations operating public utilities are permitted by the law to practise self-insurance.

From the date of the coming into force of the Act to Dec. 31, 1930, the Board dealt with 74,922 compensable accidents and paid out \$9,679,576 for compensation and medical aid. Of the accidents in 1930, 3,488 involved medical aid costs only, 4,488 involved temporary and 295 permanent disability, while 39 resulted in death (Table 9).

9.—Compensation Paid and Accidents Compensated by the Manitoba Workmen's Compensation Board, 1917-30.

Year.	Compensation.	Medical Aid.	Total.	Accidents Compensated.
	\$	\$	\$	No.
1917.....	289,870	23,002	312,872	1,323
1918.....	304,135	35,121	339,256	1,731
1919.....	285,772	40,748	326,520	1,805
1920.....	389,710	78,566	468,276	2,509
1921.....	527,102	114,118	641,210	2,688
1922.....	585,292	156,734	742,026	4,977
1923.....	624,581	161,805	786,386	4,933
1924.....	476,722	155,166	631,888	4,972
1925.....	538,781	178,814	717,595	5,404
1926.....	599,144	190,023	789,167	7,046
1927.....	605,957	203,815	814,772	7,066
1928.....	812,323	250,823	1,063,151	8,873
1929.....	863,991	259,830	1,153,821	10,449
1930.....	892,636	223,795	1,116,431	8,310

Saskatchewan.—The Workmen's Compensation (Accident Fund) Act, being Chapter 253 of the Statutes of Saskatchewan, 1930, is administered by a Board of three members and was brought fully into force at midnight of July 1, 1930. This Act is similar to that of other provinces; certain railway employees engaged in what are generally known as the "running trades" are exempt from the Statute, but are covered by The Workmen's Compensation Act, being c. 252 of the Revised Statutes of Saskatchewan, 1930.

During 1931, 4,722 accidents were reported. On 3,832 claims payments were made; of this number 1,719 were medical aid, 2,018 were temporary disability.

There were 17 fatal accidents reported; also 82 accidents reported which had resulted in permanent disability at Dec. 31, 1931.

These figures do not include accidents occurring in 1931 but reported in 1932.

Alberta.—The Workmen's Compensation Act of 1918 became effective Aug. 1, 1918, as regards mining, and Jan. 1, 1919, in respect of almost all industries except agriculture, railroading and the operation of retail stores and offices. Railroading (except for the running trades) was brought within the scope of the Act in 1919, and a further amendment in 1928 left only conductors and trainmen exempt from the operations of the Act.

Table 10 shows the operations of the Board for the calendar years 1921 to 1930. Of the 12,607 accidents reported in the latter year 49 were fatal and 140 resulted in some permanent injury. The amounts shown below do not include sums transferred to the pension fund, which had assets amounting to \$2,487,112 on Dec. 31, 1930, nor do they include administration expenses nor sums set aside to cover estimated liabilities.

10.—Compensation Paid and Accidents Compensated by the Alberta Workmen's Compensation Board, 1921-30.

Year.	Compensation Paid.	Medical Aid Paid.	Total.	Accidents Reported.	Accidents Compensated.
	\$	\$	\$	No.	No.
1921.....	253,669	113,433	367,102	7,069	3,596
1922.....	265,326	134,252	399,578	7,518	3,214
1923.....	323,369	161,732	485,101	9,160	4,288
1924.....	241,090	127,397	368,487	7,383	3,622
1925.....	312,990	154,870	467,860	8,355	4,099
1926.....	298,404	124,138	422,542	8,930	4,622
1927.....	371,787	161,537	533,324	10,149	5,542
1928.....	456,526	207,602	664,128	13,400	6,636
1929.....	507,438	265,636	773,074	14,899	7,388
1930.....	498,015	264,780	762,795	12,607	6,491

British Columbia.—The Workmen's Compensation Act, effective Jan. 1, 1917, provides compulsory accident insurance in almost every industrial occupation carried on in the province, protecting in 1930 approximately 170,000 employees with a payroll of over \$177,000,000. Insurance rates levied against employees are graded according to the hazard of the industry. All employers under the Act are required in addition to deduct one cent per day or part thereof from the wages of employees and to remit this money to the Board to the credit of the medical aid fund, which provides all necessary medical and surgical and hospital expenses for injured employees. For statistics see Table 11.

11.—Compensation Paid and Accidents Compensated by the British Columbia Workmen's Compensation Board, 1917-30.

Year.	Compensation Paid.	Medical Aid Paid.	Total.	Claims (gross).
	\$	\$	\$	No.
1917.....	603,274	62,668	665,942	13,688
1918.....	1,224,039	268,985	1,493,024	22,499
1919.....	1,394,696	289,108	1,683,804	18,188
1920.....	1,709,759	397,451	2,107,210	20,900
1921.....	1,771,126	431,748	2,202,874	16,888
1922.....	1,767,260	457,196	2,224,456	19,644
1923.....	2,157,918	514,762	2,672,680	24,188
1924.....	2,309,007	602,733	2,911,740	25,500
1925.....	2,419,372	618,942	3,038,314	27,500
1926.....	2,481,456	678,231	3,159,687	30,300
1927.....	2,654,200	643,594	3,297,794	32,000
1928.....	2,898,021	688,446	3,586,467	32,700
1929.....	3,588,626	752,623	4,341,249	36,700
1930.....	3,403,743	773,397	4,177,140	33,200

Section 8.—Strikes and Lockouts.

Statistics of strikes and lockouts in Canada have been collected by the Dominion Department of Labour since its inception in 1900. Table 12 shows the number of disputes, the number of employees involved in disputes, and the time loss in working days for each year from 1901 to 1931 and the totals for the period. The items in the columns headed "time loss in working days" in the tables following are calculated by multiplying the number of persons directly involved in strike and lockouts by the number of working days they are so affected during the time the disputes are in existence. Tables 12 and 13 give the figures for previous years and a detailed analysis for 1930 and 1931.

Summary tables of the figures with details as to strikes and lockouts during 1931 may be found in the *Labour Gazette* for February, 1932, pp. 130-148.

Industrial Disputes in Recent Years.—In each of the years since 1925, the time loss in "man working days" from strikes and lockouts was less than in any year since 1916 and less than in most of the years back to 1901, when the record was begun. This was chiefly because there were no coal mining disputes involving large numbers of workers for relatively long periods of time. The number of strikes and lockouts in existence in 1931 was 88, as compared with 67 in 1930, but the number of employees involved was 10,738 in 1931, less than in any year except 1914. The increase in strikes was due to certain extensive disputes in clothing factories and in sawmills. Table 12 shows the number of strikes and lockouts existing in each year and the number beginning in each year back to 1901, also the number of employees involved, with the time loss in man working days in each year. The table includes figures as to coal mining and industries other than coal mining. The time loss in 1930 was less than in any other year on record.

12.—Strikes and Lockouts in Canada, by years, 1901-31.

Year.	Coal Mining.			Industries other than Coal Mining.			All Industries.			
	Number of Disputes in Existence during year.	Number of Workers Involved.	Time Loss in Working Days.	Number of Disputes in Existence during year.	Number of Workers Involved.	Time Loss in Working Days.	Number of Disputes.		Number of Workers Involved.	Time Loss in Working Days.
							In Existence during the year.	Beginning in the year.		
1901	2	1,760	7,040	97	22,329	730,768	99	97	24,089	737,808
1902	3	510	10,120	122	12,199	193,181	125	124	12,709	203,301
1903	7	5,410	173,441	168	32,998	685,518	175	171	38,408	858,959
1904	4	184	792	99	11,236	192,098	103	103	11,420	192,890
1905	10	5,564	101,770	86	6,949	144,368	96	95	12,513	246,138
1906	13	4,549	146,622	137	18,833	231,654	150	149	23,382	378,276
1907	13	8,990	102,824	175	25,070	417,318	188	183	34,060	520,142
1908	7	3,541	13,600	69	22,530	689,971	76	72	26,071	703,571
1909	13	8,618	720,180	77	9,496	160,483	90	88	13,114	880,663
1910	3	2,950	485,000	98	19,253	246,324	101	94	22,203	731,324
1911	6	9,890	1,513,320	94	19,395	307,764	100	99	29,285	1,821,084
1912	2	2,243	107,240	179	40,617	1,028,546	181	179	42,860	1,135,786
1913	4	4,837	562,025	148	35,682	474,229	152	143	40,519	1,036,254
1914	3	2,500	280,800	60	7,217	210,050	63	58	9,717	490,850
1915	9	2,753	11,907	54	8,642	83,135	63	62	11,395	95,042
1916	8	11,270	72,387	112	15,268	164,427	120	118	26,538	236,814
1917	21	17,379	534,890	139	32,876	538,625	160	158	50,255	1,123,515
1918	46	22,920	130,696	184	56,823	517,246	230	228	79,743	647,942
1919	20	10,130	383,659	316	138,785	3,017,283	336	332	148,915	3,400,942
1920	35	12,128	99,920	287	48,199	699,604	322	310	60,327	799,524
1921	10	1,456	31,318	158	26,801	1,017,596	168	159	28,257	1,048,914
1922	21	26,475	798,518	83	17,300	730,113	104	89	43,775	1,528,661
1923	23	20,814	299,539	63	13,447	372,211	86	77	34,261	671,750
1924	15	21,201	1,089,484	55	13,109	205,570	70	64	34,310	1,295,054
1925	17	18,672	1,040,276	70	10,277	153,005	87	86	28,949	1,193,281
1926	16	8,445	35,193	61	15,389	231,408	77	75	23,834	266,601
1927	20	16,653	53,833	54	5,646	98,737	74	72	22,299	152,570
1928	14	5,033	88,000	84	12,548	136,212	98	96	17,581	224,212
1929	8	3,015	6,805	82	9,901	145,275	90	88	12,940	152,080
1930	15	6,228	24,183	52	7,540	67,614	67	67	13,768	91,797
1931	9	2,129	11,523	79	8,609	192,715	88	86	10,738	204,238
Totals	399	268,277	8,986,935	3,542	724,964	14,083,048	3,939	3,822	993,241	23,069,983

¹ Figures for disputes extending over the end of a year are here counted more than once.

Table 13 is a record of industrial disputes, by provinces, for the years 1930 and 1931. In 1930, the chief time loss was in Nova Scotia, Ontario and Quebec, due to disputes involving fishermen in Cape Breton island, coal miners at Springhill, Nova Scotia, clothing factory workers at Toronto, Ont. and clothing factory workers in Montreal, Que. In 1931, the chief time loss was in British Columbia where strikes of some magnitude occurred involving sawmill workers employed by firms operating on the Pacific coast and where masters, mates and marine engineers were involved in a prolonged dispute. A large time loss, however, is recorded in Ontario also, due chiefly to strikes of clothing factory workers in Toronto, as in the previous year.

13.—Strikes and Lockouts, by Provinces, Number of Workers Involved and Time Loss, 1930 and 1931.

Province.	1930.				1931. ¹			
	No. of Disputes.	No. of Workers Involved.	Time Loss.		No. of Disputes.	No. of Workers Involved.	Time Loss.	
			Working Days.	P.C. of Total.			Working Days.	P.C. of Total.
Prince Edward Island.....	—	—	—	—	—	—	—	—
Nova Scotia.....	18	7,050	40,112	43.7	5	1,198	4,682	2.8
New Brunswick...	4	186	1,311	1.4	2	44	192	0.0
Quebec.....	13	2,560	15,776	17.2	13	1,118	8,090	3.3
Ontario.....	18	3,472	28,299	30.8	23	2,866	66,132	32.2
Manitoba.....	—	—	—	—	8	408	6,785	3.1
Saskatchewan.....	2	95	890	1.0	5	744	6,746	3.1
Alberta.....	5	174	2,260	2.5	10	662	5,717	2.7
British Columbia.	7	231	3,149	3.4	21	3,576	85,894	42.1
Yukon Territory..	—	—	—	—	—	—	—	—
Interprovincial....	—	—	—	—	1	122	20,000	9.5
Totals.....	67	13,768	91,797	100.0	88	10,738	204,238	100.0

¹ Including strikes of unemployed men on relief work: Nova Scotia, 1 dispute involving 12 workers, 1 day's time loss; Alberta, 1 dispute, 30 workers, 30 days' time loss; British Columbia, 5 disputes, 795 workers, 4,520 days' time loss.

Table 14 shows strikes and lockouts by industries during 1930 and 1931, the most important during 1930 being in the clothing manufacturing, mining, fishing and construction industries, while in 1931 most of the important disputes occurred in clothing manufacturing, sawmilling, printing and publishing, water transportation, mining and fishing.

14.—Strikes and Lockouts, by Industries, 1930 and 1931.

Industry.	1930.						1931.					
	Disputes.		Workers Involved.		Time Loss.		Disputes.		Workers Involved.		Time Loss.	
	Number.	Per cent of Total.	Number.	Per cent of Total.	Man Working Days.	Per cent of Total.	Number.	Per cent of Total.	Number.	Per cent of Total.	Man Working Days.	Per cent of Total.
Logging.....	2	3.0	170	1.2	640	0.7	3	3.4	236	2.2	2,250	1.0
Fishing and trapping..	2	3.0	700	5.1	12,400	13.5	3	3.4	1,000	9.4	11,400	5.6
Mining, etc. ¹	15	22.3	6,228	45.2	24,183	26.3	9	10.2	2,129	19.8	11,523	5.7
Manufacturing.....	21	31.3	4,939	35.9	40,035	43.6	43	48.8	5,406	50.3	149,214	73.0
Vegetable foods, etc	1	1.5	15	1	250	0.3	—	—	—	—	—	—
Rubber products....	—	—	—	—	—	—	1	1.1	71	0.6	71	0.1
Boots and shoes (leather).....	1	1.5	52	0.3	1,200	1.3	—	—	—	—	—	—
Fur, leather and other animal products.....	1	1.5	350	2.6	1,400	1.5	3	3.4	220	2.1	5,100	2.4
Textiles, clothing, etc.....	11	16.4	4,295	31.2	33,483	36.5	23	26.1	3,105	29.0	68,538	33.5
Printing and publishing.....	1	1.5	8	0.1	32	0.0	3	3.4	169	1.3	21,191	10.4
Other wood products.....	2	3.0	124	0.9	2,385	2.6	8	9.1	1,641	15.5	51,657	25.3
Metal products.....	4	5.9	95	0.7	1,285	1.4	3	3.4	127	1.2	1,115	0.6
Non-metallic minerals, chemicals, etc.....	—	—	—	—	—	—	2	2.3	73	0.6	1,542	0.7
Construction.....	20	29.9	1,367	10.0	12,367	13.5	13	14.8	549	5.1	3,346	1.7
Buildings and structures.....	16	23.9	1,252	9.1	11,198	12.2	6	6.8	292	2.7	2,159	1.0
Railway.....	1	1.5	20	0.2	120	0.1	—	—	—	—	—	—
Bridge ²	—	—	—	—	—	—	1	1.2	30	0.3	340	0.2
Highway.....	1	1.5	25	0.2	25	0.0	3	3.4	94	0.8	712	0.4
Canal, harbour, waterway.....	1	1.5	32	0.2	150	0.2	—	—	—	—	—	—
Other.....	1	1.5	38	0.3	874	1.0	3	3.4	135	1.3	135	0.1
Transportation and Public Utilities....	3	4.5	278	2.0	652	0.7	3	3.4	451	4.2	20,900	10.2
Steam railways.....	2	3.0	230	1.7	220	0.2	—	—	—	—	—	—
Water transportation.....	1	1.5	48	0.3	432	0.5	2	2.3	281	2.6	18,900	9.3
Electricity and gas ³	—	—	—	—	—	—	1	1.1	170	1.6	2,000	0.9
Service.....	4	6.0	86	0.6	1,520	1.7	14	16.0	967	9.0	5,605	2.8
Public administration ⁴	1	1.5	40	0.3	360	0.4	7	8.0	837	7.8	4,562	2.2
Recreational.....	3	4.5	46	0.3	1,160	1.3	5	5.7	110	1.0	683	0.4
Business and personal.....	—	—	—	—	—	—	2	2.3	20	0.2	360	0.2
Totals.....	67	100.0	13,768	100.0	91,797	100.0	88	100.0	10,738	100.0	204,238	100.0

¹ Includes non-ferrous metal smelting.² Covers the erection of all large bridges.³ Does not include undertakings mainly public utilities.⁴ Includes water services.

Causes and Results of Industrial Disputes.—During 1930 and 1931, as in previous years, most of the disputes were in regard to wages, or wages and working conditions, but also during these two years a large proportion of disputes (and these included some of the most important) were in regard to trade unionism, usually concerned with union wages and working conditions, including recognition of unions, closed shop, etc.

As in previous years many of the disputes during 1930 and 1931 were settled by negotiation; in 1931, out of a total of 88 disputes terminated during the year

38 settlements resulted from negotiation. An appreciable number of disputes terminated in the return of strikers or by their replacement, 30 being terminated in this manner in 1931.

Section 9.—Employment and Unemployment.

Subsection 1.—Operations of the Employment Service of Canada.

Employment Service of Canada.—Under sec. 3 of The Employment Offices Co-ordination Act (c. 57, R.S.C., 1927), an Act passed by the Dominion Parliament in May, 1918, the Minister of Labour is empowered:—

“(a) to aid and encourage the organization and co-ordination of employment offices and to promote uniformity of methods among them;

“(b) to establish one or more clearing houses for the interchange of information between employment offices concerning the transfer of labour and other matters;

“(c) to compile and distribute information received from employment offices and from other sources regarding prevailing conditions of employment”

The Act further provides that certain sums of money are to be appropriated annually and paid to the provinces on a basis proportionate to the amount that each expends on the maintenance of employment offices.

The desired uniformity and co-ordination of employment office activities throughout the various provinces are obtained by having the Dominion's payments contingent upon an agreement ensuring that the provinces, in the conduct of their employment offices, shall endeavour to fill situations in all trades and occupations for both men and women, and that no charge shall be made to employers or employees for this service. Each province agrees to maintain a provincial clearance system in co-operation with the interprovincial clearance system established by the Dominion Government, in order to secure the necessary mobility of labour as between localities in the same province or in different provinces. For the fiscal year 1931-32, agreements were concluded with all of the provinces except Prince Edward Island. Thus is formed the Employment Service of Canada—a chain of employment offices reaching from Halifax to Vancouver. At the time the Act came into force only 12 provincial employment offices were operated in Canada. This number was steadily increased until, at the close of 1919, due to the impetus given by the Employment Offices Co-ordination Act together with the requirements of the demobilization period, offices were functioning at 84 different centres. Subsequent contractions have reduced the Service to offices permanently located at 71 centres (on Dec. 31, 1931), distributed by provinces as follows: Nova Scotia, 3; New Brunswick, 3; Quebec, 8; Ontario, 28; Manitoba, 4; Saskatchewan, 9; Alberta, 5 and British Columbia, 11.

Employment Service Council of Canada.—An Order in Council, issued in 1918 in pursuance of the Act, provided for the formation of a body to be advisory to the Minister of Labour in the administration thereof. This body, known as the Employment Service Council of Canada, is composed of representatives of the Dominion Departments of Labour and Pensions and National Health, the Provincial Governments, the Canadian Manufacturers' Association, the Canadian Construction Association, the Trades and Labour Congress of Canada, the Railway Association of Canada, the Railway Brotherhoods, the Canadian Lumbermen's Association, the Canadian Council of Agriculture and the returned soldiers. At the eleven meetings of the Council, the most recent of which was held on Aug. 21-22, 1930, various recommendations and suggestions relative to employment office administration were brought forward and presented to the Minister.

Operations of Employment Offices.—Statistics covering the work of the local offices are collected and tabulated by the Employment Service Branch of the Department of Labour. Table 15 shows the positions available, applications for work and placements effected by the Service in each year since 1920. During 1931 there were 826,153 applications for employment, 486,384 vacancies and 471,508 placements recorded, as compared with 612,990 applications, 386,034 vacancies and 368,679 placements in 1930. During 1931, 28 p.c. more placements were made than in 1930. Nearly 63 p.c. of all placements were of a casual nature, largely as a result of short terms of employment given to persons otherwise unemployed, by municipalities and Provincial Governments, on various relief schemes provided during the year. All provinces except Quebec and Saskatchewan showed a gain in placements, the largest increase being in Ontario. Construction and maintenance was the only industrial division to show a gain in positions secured and this was attributable, for the most part, to work on highway construction provided in relief of unemployment.

The ratio of vacancies to applications was lower in 1931 than in 1930, as was also the ratio of placements to applications. For each 100 applicants registered during 1931 there were 58.9 vacancies and 57.1 placements, while there were 63.0 vacancies and 60.2 placements for each 100 applicants in 1930.

Reduced Railway Fares.—In order to facilitate the movement of labour in cases where there were not enough workers in any one locality to fill the available vacancies, the Employment Service, by special arrangement with nearly all the members of the Canadian Passenger Association, has been granted the privilege of issuing certificates which entitle the bearers to purchase railway fares at the reduced rate of 2.7 cents per mile. This rate is for a second class ticket and is applicable only to fares of not less than \$4. During 1930, 13,938 certificates were issued, 10,746 to persons proceeding to points within the same province as the despatching office and 3,192 to workers going to points in other provinces. Of the certificates issued, 13 were issued in British Columbia to persons proceeding to the

Prairie Provinces to engage in harvesting operations; these travelled at harvesters' rates, which were cheaper than the 2.7 cents per mile rate. During 1931, 5,541 certificates for special rates were granted, 4,949 to persons travelling to employment within the same province as the despatching office and 592 to persons for whom employment had been secured in other provinces.

15.—Applications for Employment, Positions Offered and Placements Effected by the Employment Service of Canada, by Provinces, 1930-31,¹ and for Canada, 1920-31.

Province.	Year.	Applications Registered.		Vacancies Notified.		Placements Effected.	
		Men.	Women.	Men.	Women.	Men.	Women.
Nova Scotia.....	1930.....	4,817	5,486	4,397	5,097	4,336	4,532
	1931.....	6,516	5,150	5,964	4,439	5,948	3,977
New Brunswick.....	1930.....	4,721	5,417	4,118	5,547	4,026	5,332
	1931.....	6,735	4,700	5,975	4,725	5,923	4,638
Quebec.....	1930.....	33,749	11,316	12,513	7,731	11,661	6,077
	1931.....	44,092	17,442	8,581	10,783	8,299	8,585
Ontario.....	1930.....	206,866	70,676	136,475	43,655	133,644	35,113
	1931.....	333,605	66,000	221,773	41,022	220,750	32,493
Manitoba.....	1930.....	41,061	22,277	22,675	19,866	24,759	19,254
	1931.....	67,268	17,446	34,298	14,206	34,399	13,841
Saskatchewan.....	1930.....	40,225	11,313	33,092	8,563	30,423	8,135
	1931.....	32,017	9,777	25,657	7,296	24,911	6,893
Alberta.....	1930.....	66,503	10,923	39,660	8,271	39,813	7,931
	1931.....	81,207	9,336	48,347	5,896	48,154	5,741
British Columbia.....	1930.....	65,161	12,479	25,905	8,469	25,565	8,073
	1931.....	114,020	10,842	41,262	6,160	40,847	6,109
Canada.....	Totals, 1920.....	480,735	96,054	450,526	116,142	365,292	80,520
	Totals, 1921.....	438,836	105,563	325,498	106,097	277,792	77,964
	Totals, 1922.....	443,875	104,407	365,529	104,359	316,386	77,136
	Totals, 1923.....	473,483	115,692	431,576	109,404	376,801	85,751
	Totals, 1924.....	402,593	116,782	314,258	97,810	285,359	80,773
	Totals, 1925.....	439,022	118,023	345,570	101,473	328,334	84,491
	Totals, 1926.....	417,965	124,504	345,163	111,769	319,553	90,597
	Totals, 1927.....	422,022	131,849	339,478	114,095	320,306	94,466
	Totals, 1928.....	454,525	142,968	376,791	129,635	361,942	108,389
	Totals, 1929.....	397,527	153,199	296,592	131,435	287,128	111,230
	Totals, 1930.....	463,103	149,887	278,835	107,199	274,227	94,458
	Totals, 1931.....	685,460	140,693	391,857	94,527	389,231	82,277

¹Figures by provinces and years for 1920-25 will be found at p. 703 of the 1926 Year Book, for 1926-28 at p. 731 of the 1930 Year Book, and for 1929-30 at p. 773 of the 1931 Year Book.

Subsection 2.—Unemployment as reported by Trade Unions.

Monthly statistics on unemployment are compiled and published by the Employment Service Branch of the Dominion Department of Labour, based on returns received from 1,850 local trade unions having an aggregate membership of nearly 200,000 workers. "Unemployment" as here used means involuntary idleness, due to economic causes. Persons engaged in work other than their own trades, or idle because of illness, are not considered as unemployed, while unions involved in industrial disputes are excluded from the tabulations. As the number of unions

making returns varies from month to month, with consequent variation in the membership upon which the percentages of unemployment are based, it should be understood that the figures for each month have reference only to the reporting organizations. Table 16 is a record of unemployment in trade unions for the past 16 years, by provinces. The maximum of unemployment in 1931 was in December, when the percentage stood at 21.1; in 1930 the December figure of 17.0 p.c. constituted the maximum. In both 1930 and 1931 the minimum was reached in April, the percentage of unemployment reported in April, 1931, being 14.9 and in April, 1930, 9.0. Employment among organized workers, as indicated by these statistics, was less active on the average in 1931 than in 1930, the average of the monthly figures of unemployment for 1931 being 16.8 p.c., while for 1930 the corresponding figure was 11.1 p.c.

**16.—Percentages of Unemployment in Trade Unions, by Provinces,
half-yearly, 1915-30, and by Months, 1931.**

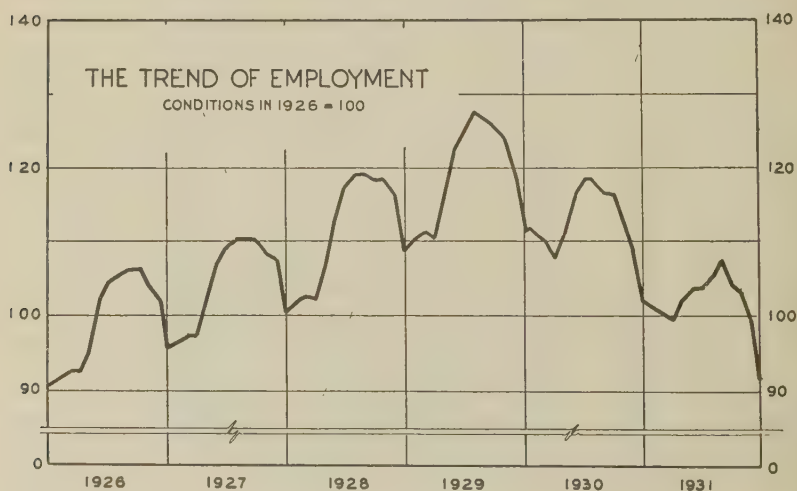
NOTE.—For the percentages of unemployment for 12 months in 1921 and 1922, see p. 732 of the 1922-23 Year Book; for 12 months in 1923, p. 688 of the 1924 Year Book; for 12 months in 1924, p. 700 of the 1925 Year Book; for 12 months in 1925, p. 704 of the 1926 Year Book; for 12 months in 1926, p. 757 of the 1927-28 Year Book; for 12 months in 1927, p. 745 of the 1929 Year Book; for 12 months in 1928 and 1929, p. 733 of the 1930 Year Book, and for 12 months in 1930, p. 774 of the 1931 Year Book.

Month.	Year.	Nova Scotia and P.E.I.	New Brunswick.	Quebec.	Ontario.	Mani- toba.	Saskat- chewan.	Alberta.	British Colum- bia.	Canada.
Dec.	1915	.4	.7	9.5	8.1	3.2	7.0	4.3	14.8	7.9
June.	1916	.5	.9	1.8	1.7	1.2	2.6	3.1	5.4	2.1
Dec.	1916	.4	.2	3.7	1.6	1.0	1.6	1.7	2.4	2.0
June.	1917	.2	.2	2.5	.9	.6	.3	.8	1.8	1.2
Dec.	1917	2.6	4.1	3.2	2.4	1.1	2.4	1.6	3.2	2.5
June.	1918	.2	.3	.4	.4	.3	.2	.4	.9	.4
Dec.	1918	2.0	.4	2.2	2.9	1.3	2.2	2.1	4.0	2.5
June.	1919	2.7	2.4	4.0	1.8	1.2	2.5	1.7	3.4	2.6
Dec.	1919	1.5	2.0	3.2	1.9	5.0	6.0	2.8	18.6	4.3
June.	1920	.6	.4	3.1	1.6	1.4	2.2	1.2	5.8	2.1
Dec.	1920	6.9	11.0	19.6	12.3	7.8	10.1	9.2	11.6	13.0
June.	1921	14.3	11.7	20.7	6.7	8.0	6.8	9.4	24.4	13.2
Dec.	1921	5.9	6.9	26.8	9.7	15.5	10.4	6.8	24.7	15.1
June.	1922	7.2	3.5	5.4	3.9	6.7	5.0	7.1	7.1	5.3
Dec.	1922	3.2	6.1	7.8	4.7	7.8	4.1	5.1	13.3	6.4
June.	1923	2.2	1.0	5.7	1.6	5.6	1.3	4.5	4.0	3.4
Dec.	1923	7.3	3.6	9.7	6.4	6.5	4.2	6.0	7.1	7.2
June.	1924	6.4	5.2	9.4	4.9	4.9	2.3	3.7	2.2	5.8
Dec.	1924	4.7	6.9	22.4	8.1	8.9	4.2	5.0	10.2	11.6
June.	1925	3.4	3.4	10.2	3.8	4.3	2.4	10.8	4.1	6.1
Dec.	1925	4.3	3.0	14.2	6.4	3.8	3.5	4.4	6.9	7.9
June.	1926	3.8	1.6	8.9	1.9	2.6	.8	4.9	2.6	4.1
Dec.	1926	3.2	2.2	7.6	5.6	4.3	2.1	6.7	7.5	5.9
June.	1927	1.8	2.3	4.0	3.1	2.6	1.1	4.6	2.7	3.2
Dec.	1927	4.3	1.5	9.3	5.1	5.4	5.6	3.7	10.5	6.6
June.	1928	.5	.8	5.6	2.4	2.1	1.1	3.3	3.6	3.2
Dec.	1928	3.9	.9	10.7	4.0	8.1	4.4	6.9	6.9	6.6
June.	1929	3.3	1.0	2.9	2.5	3.1	2.8	4.3	2.6	2.9
Dec.	1929	5.2	2.4	14.5	9.7	12.8	13.0	13.9	11.5	11.4
June.	1930	3.3	2.8	17.5	7.4	9.2	8.9	14.3	8.4	10.6
Dec.	1930	7.5	8.7	22.8	17.3	14.2	15.9	13.8	16.8	17.0
Jan.	1931	7.4	10.5	16.1	18.4	15.1	18.3	15.7	16.9	16.0
Feb.	1931	6.7	8.5	15.7	17.1	15.6	19.0	18.2	16.3	15.6
Mar.	1931	6.5	10.9	14.0	16.0	14.7	19.5	21.8	18.8	15.5
April.	1931	7.2	9.8	14.9	15.2	14.4	14.6	20.3	17.8	14.9
May.	1931	6.4	10.3	20.5	15.6	13.0	12.8	22.0	14.2	16.2
June.	1931	7.2	6.5	20.0	16.2	14.1	13.5	21.7	15.6	16.3
July.	1931	7.2	7.0	17.0	16.6	14.7	14.5	25.3	16.3	16.2
Aug.	1931	9.3	7.7	16.9	15.2	15.7	11.8	24.4	16.4	15.8
Sept.	1931	8.2	10.4	22.7	18.7	19.0	12.3	16.0	17.9	18.1
Oct.	1931	8.6	9.2	23.6	18.3	17.7	12.7	16.4	19.7	18.3
Nov.	1931	12.8	10.0	22.1	18.8	18.3	17.0	14.7	20.6	18.6
Dec.	1931	13.8	9.6	29.0	20.3	16.5	19.5	16.9	21.2	21.1

Subsection 3.—Employment as Reported by Employers.

The Dominion Bureau of Statistics tabulates monthly reports of the numbers employed by firms having 15 or more persons on their staffs; the returns are representative of practically every industry except agriculture and the more specialized business and professional callings. During 1931, some 7,700 of these employers reported an average working force of 927,485 persons, varying from 899,823 on Jan. 1 to 972,537 at the beginning of September. In Canada, as in other parts of the world, industrial employment continued slack during 1931, activity generally being at a lower level than in any other year since 1926.

A downward trend was shown from the opening of 1931 until April 1, but from May 1 to Sept. 1 the movement was consistently upward. The usual seasonal contraction in industry then caused steady reductions in employment during the remaining months of the year. The following chart illustrates the trend of employment generally over the latest five years.



Employment by Economic Areas.—Firms in all provinces reported considerably less activity in 1931 than in 1930. The index, based on the 1926 average as 100, was higher in the Prairie Provinces than elsewhere. This was due to the execution of important highway construction works undertaken for the relief of the serious unemployment situation that existed during the greater part of the year, both in agricultural and industrial centres, as a result of crop failures and other factors. Table 17 is a record of employment in the five economic areas, by months, 1930 and 1931.

17.—Index Numbers of Employment as Reported by Employers in Economic Areas, as at the First of each Month, January, 1930, to December, 1931, with Yearly Averages since 1921.

NOTE.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated economic area to the total reported by all employers making returns in Canada on Dec. 1, 1931.

Year and Month.	Maritime Provinces.	Quebec.	Ontario.	Prairie Provinces.	British Columbia.	Canada.
Averages, 1921.....	102.4	82.2	90.6	94.0	81.1	88.8
Averages, 1922.....	97.3	81.4	92.8	92.6	82.8	89.0
Averages, 1923.....	105.7	90.7	99.5	94.8	87.4	95.8
Averages, 1924.....	96.6	91.3	95.5	92.1	89.4	93.4
Averages, 1925.....	97.0	91.7	95.8	92.0	93.7	93.6
Averages, 1926¹.....	99.4	99.4	99.6	99.5	100.2	99.6
Averages, 1927.....	103.7	104.0	105.6	105.3	101.1	104.6
Averages, 1928.....	106.6	108.3	113.8	117.9	106.4	111.6
Averages, 1929.....	114.8	113.4	123.1	126.3	111.5	119.0
1930.						
Jan. 1.....	113.6	107.4	116.1	111.0	99.1	111.2
Feb. 1.....	112.1	108.2	117.1	109.8	99.9	111.6
Mar. 1.....	110.2	106.6	115.6	105.3	104.2	110.2
April 1.....	107.8	103.7	112.7	103.2	106.0	107.8
May 1.....	113.1	106.1	115.7	109.2	110.7	111.4
June 1.....	122.4	114.5	117.8	115.8	113.3	116.5
July 1.....	141.1	116.8	116.9	120.4	113.5	118.9
Aug. 1.....	140.9	114.7	115.7	126.2	115.8	118.8
Sept. 1.....	122.5	113.6	113.6	129.8	114.6	116.6
Oct. 1.....	116.2	113.0	114.6	130.0	112.1	116.2
Nov. 1.....	110.1	111.9	111.6	125.8	105.4	112.9
Dec. 1.....	109.5	106.7	108.2	118.6	100.0	108.5
Averages.....	118.3	110.3	114.6	117.1	107.9	113.4
1931.						
Jan. 1.....	119.3	99.3	100.1	106.4	94.1	101.7
Feb. 1.....	110.6	98.8	101.7	101.0	93.8	100.7
Mar. 1.....	104.5	99.7	101.6	98.6	93.8	100.2
April 1.....	102.3	98.5	102.4	97.7	92.4	99.7
May 1.....	104.0	102.3	103.8	100.0	96.1	102.2
June 1.....	105.2	104.3	104.2	103.3	97.9	103.6
July 1.....	109.4	103.2	102.7	108.9	97.9	103.8
Aug. 1.....	106.8	102.4	100.7	129.1	98.0	105.2
Sept. 1.....	102.7	109.8	100.7	130.0	96.6	107.1
Oct. 1.....	102.6	101.6	99.3	129.1	95.9	103.9
Nov. 1.....	116.6	96.2	98.1	128.2	98.9	103.0
Dec. 1.....	112.7	94.7	99.3	106.0	90.5	99.1
Averages.....	108.1	100.9	101.2	111.5	95.5	102.5
Relative weight of employ- ment in economic areas as at Dec. 1, 1931.....	8.6	28.1	41.0	14.2	8.1	100.0

¹Since the average for the calendar year 1926, including figures up to Dec. 31, 1926, is the base used in computing these indexes, the average index here given for the 12 months Jan. 1-Dec. 1, 1926, generally shows a slight variation from 100.

Employment in Cities.—Separate tabulations are made for the eight leading industrial centres: Montreal, Quebec, Toronto, Ottawa, Hamilton, Windsor and the adjoining "Border Cities", Winnipeg and Vancouver. These cities recorded on the whole a lower level of activity than in 1930. The reports show that employment was generally brisker in Ottawa and Quebec than in the other centres enumerated, while the lowest indexes were reported in Windsor and Winnipeg. Table 18 gives monthly indexes in the cities in 1930 and 1931, with yearly averages since 1922.

18.—Index Numbers of Employment as Reported by Employers in Leading Cities, as at the First of each Month, January, 1930, to December, 1931, with Yearly Averages since 1922.

NOTE.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated city to the total reported by all employers making returns in Canada on Dec. 1, 1931.

Year and Month.	Montreal.	Quebec.	Toronto.	Ottawa.	Hamilton.	Windsor. ²	Winnipeg.	Van- couver.
Averages, 1922.....	86.0	—	96.1	—	—	—	93.9	81.5
Averages, 1923.....	92.7	—	95.0	107.2	94.6	—	90.6	82.5
Averages, 1924.....	93.0	99.6	94.3	102.3	86.0	—	86.5	86.2
Averages, 1925.....	94.2	97.9	95.7	100.1	88.0	85.1	88.5	92.6
Averages, 1926¹.....	99.7	99.1	99.6	100.0	99.3	99.9	99.2	99.9
Averages, 1927.....	103.0	111.3	105.7	107.7	103.1	86.2	104.1	100.7
Averages, 1928.....	108.2	119.9	112.1	115.8	108.2	137.3	110.1	104.3
Averages, 1929.....	115.3	124.2	121.3	120.7	128.4	153.2	112.3	109.2
1930.								
Jan. 1.....	107.2	123.4	117.6	119.1	123.8	116.5	109.9	104.2
Feb. 1.....	109.5	112.5	116.4	115.4	122.8	128.1	106.9	107.2
Mar. 1.....	108.7	110.0	115.9	116.0	120.4	136.7	104.6	108.3
April 1.....	109.2	111.7	116.5	116.2	120.4	140.9	103.4	110.4
May 1.....	110.8	115.3	117.8	125.3	118.4	150.5	105.7	110.3
June 1.....	116.6	122.3	118.5	130.4	118.0	149.4	107.1	110.8
July 1.....	116.0	130.1	117.8	129.4	115.0	134.9	109.6	110.2
Aug. 1.....	114.5	138.2	115.4	131.8	112.6	120.8	110.3	111.7
Sept. 1.....	113.2	138.5	114.7	125.6	105.6	121.2	110.7	114.0
Oct. 1.....	114.1	138.3	116.2	127.5	103.7	113.9	109.5	112.1
Nov. 1.....	112.6	135.3	115.5	124.6	102.0	116.5	108.6	110.4
Dec. 1.....	108.6	128.0	113.8	116.0	104.6	113.6	104.3	107.4
Averages.....	111.8	125.3	116.3	123.1	113.9	128.6	107.6	109.8
1931.								
Jan. 1.....	102.4	127.0	107.5	112.6	103.5	89.4	98.2	107.0
Feb. 1.....	102.8	120.7	107.1	113.4	106.1	96.9	96.8	108.4
Mar. 1.....	105.1	123.3	107.5	117.5	105.6	95.5	98.0	108.2
April 1.....	106.2	122.2	109.5	121.8	109.8	104.2	97.3	101.9
May 1.....	107.0	125.7	111.4	123.4	108.0	105.5	97.1	104.6
June 1.....	107.1	126.7	110.3	123.4	103.9	99.5	98.8	106.9
July 1.....	105.1	122.2	109.0	121.0	98.4	94.2	99.9	106.0
Aug. 1.....	102.5	122.0	106.3	122.8	97.6	75.1	98.1	106.0
Sept. 1.....	102.3	123.2	106.6	121.7	95.8	77.8	98.2	104.5
Oct. 1.....	97.3	124.2	107.3	124.5	96.1	80.9	96.4	99.7
Nov. 1.....	95.4	120.0	105.6	118.6	96.3	67.7	93.5	101.9
Dec. 1.....	96.7	108.7	104.8	112.7	94.0	72.3	93.2	98.3
Averages.....	102.5	122.2	107.7	119.5	101.3	88.3	97.1	104.5
Relative weight, by cities, as at Dec. 1, 1931 ³	15.0	1.4	13.2	1.5	3.3	1.0	3.6	3.2

¹Since the average for the calendar year 1926, including figures up to Dec. 31, 1926, is the base used in computing these indexes, the average index here shown for the 12 months Jan. 1-Dec. 1, 1926, generally shows a slight variation from 100.

²Includes adjacent "Border Cities". ³Percentages of Dominion total.

Employment by Industries.—Employment in manufacturing, logging, mining, communications, transportation, services and trade was in smaller volume than in 1930; in construction, the index averaged slightly higher, as a result of the unemployment relief programs carried out by the various provinces in co-operation with the Dominion Government. Within the manufacturing industries, woollen and silk mills showed improvement over 1930, while employment in leather factories was practically unchanged. On the other hand, there were heavy losses during 1931 in the iron and steel, rubber, lumber, pulp and paper, clay, glass and stone and non-ferrous metal groups. Table 19 gives index numbers of employment by main industrial groups.

19.—Index Numbers of Employment as Reported by Employers, by Industries, as at the First of each Month, January, 1930, to December, 1931, with Yearly Averages since 1921.

NOTE.—These indexes are calculated upon the average for the calendar year 1926 as 100. The relative weight shows the proportion of employees reported in the indicated industry to the total reported by all employers making returns in Canada on Dec. 1, 1931.

Year and Month.	Manu- factur- ing.	Log- ging.	Mining.	Com- muni- cations.	Trans- porta- tion.	Con- struc- tion and Main- tenance.	Ser- vices.	Trade.	All Indus- tries.
Averages, 1921.....	87.7	103.0	98.0	90.2	94.1	71.1	83.6	92.7	88.8
Averages, 1922.....	88.3	85.1	99.5	86.4	97.8	76.7	81.9	90.8	89.0
Averages, 1923.....	96.6	114.2	106.2	87.6	100.3	80.9	87.9	92.1	95.8
Averages, 1924.....	92.4	116.7	105.3	93.7	99.1	80.3	93.8	92.5	93.4
Averages, 1925.....	93.0	105.4	99.8	95.5	96.6	84.9	95.4	95.1	93.6
Averages, 1926 ¹	99.6	99.5	99.7	99.6	99.7	99.2	99.5	99.2	99.6
Averages, 1927.....	103.4	109.3	107.0	103.8	102.5	109.0	106.2	107.4	104.6
Averages, 1928.....	110.1	114.5	114.4	108.2	105.9	118.8	118.1	116.1	111.6
Averages, 1929.....	117.1	125.8	120.1	120.6	109.7	129.7	130.3	126.2	119.0
1930.									
Jan. 1.....	106.5	200.2	122.5	128.2	101.9	92.7	123.5	133.8	111.2
Feb. 1.....	110.2	209.8	123.0	120.7	98.2	88.0	125.2	124.6	111.6
Mar. 1.....	110.9	178.3	119.8	118.7	97.7	83.7	125.0	123.0	110.2
April 1.....	111.3	87.6	114.5	117.1	99.5	86.4	126.1	123.1	107.8
May 1.....	112.4	63.5	114.1	117.3	104.3	112.0	128.9	125.6	111.4
June 1.....	113.6	90.0	115.6	119.5	108.0	137.0	134.7	127.6	116.5
July 1.....	111.3	82.1	113.8	119.7	108.0	170.1	142.7	129.5	118.9
Aug. 1.....	110.2	61.5	115.5	121.0	108.9	179.8	142.4	126.4	118.8
Sept. 1.....	108.2	54.3	116.6	120.9	110.2	169.2	143.4	127.3	116.6
Oct. 1.....	107.8	70.8	118.9	119.5	110.1	163.0	136.7	127.9	116.2
Nov. 1.....	104.6	90.9	121.9	119.9	106.0	148.8	126.9	129.2	112.9
Dec. 1.....	100.6	106.5	117.8	115.3	102.5	127.3	123.9	134.8	108.5
Averages.....	108.9	108.0	117.8	119.8	104.6	129.8	131.6	127.7	113.4
1931.									
Jan. 1.....	93.7	107.6	114.4	110.6	95.5	110.7	123.2	132.9	101.7
Feb. 1.....	96.1	102.2	111.6	106.6	94.0	104.5	122.2	123.1	100.7
Mar. 1.....	97.6	82.7	109.5	103.9	93.2	101.1	121.8	122.0	100.2
April 1.....	99.7	42.9	108.1	103.3	94.3	96.8	122.0	123.1	99.7
May 1.....	100.7	55.9	106.0	104.0	96.6	106.6	123.1	123.3	102.2
June 1.....	99.4	53.3	105.3	104.7	98.6	121.8	125.9	124.0	103.6
July 1.....	97.2	38.5	104.1	104.8	97.7	137.1	130.8	124.0	103.8
Aug. 1.....	94.7	28.8	104.5	105.9	97.8	162.8	133.0	120.9	105.2
Sept. 1.....	94.7	30.5	105.6	105.8	97.8	176.8	134.8	120.5	107.1
Oct. 1.....	91.8	42.2	108.2	104.2	95.2	164.5	125.5	120.8	103.9
Nov. 1.....	88.8	65.7	107.9	102.4	95.4	165.4	117.5	122.8	103.0
Dec. 1.....	89.6	73.1	107.5	100.5	93.5	128.8	116.1	125.6	99.1
Averages.....	95.3	60.1	107.7	104.7	95.8	131.4	124.7	123.6	102.5
Relative weight, by indus- tries, as at Dec. 1, 1931.	49.0	2.2	5.3	2.9	12.1	16.2	2.3	10.0	100.0

¹ Since the average for the calendar year 1926, including figures up to Dec. 31, 1926, is the base used in computing these indexes, the average index here given for the 12 months Jan. 1-Dec. 1, 1926, generally shows a slight variation from 100.

Subsection 4.—The Unemployment Relief Act, 1930.

The Dominion Unemployment Relief Act, 1930, was enacted by the Seventeenth Parliament in September, 1930. The Act specified that \$20,000,000 might be expended in constructing, extending or improving public works and undertakings, railways, highways, bridges and canals, harbours and wharves; assisting in defraying the cost of distribution of products of the field, farm, forest, sea, lake, river and mine; granting aid to provinces and municipalities in any public work they may undertake for relieving unemployment and reimbursing expenditures made by provinces and municipalities in connection with unemployment, and generally in any way that would assist in providing useful and suitable work for the unemployed. Administration of the Act was vested in the Minister of Labour and an advisory committee on expenditure consisting of the Minister of Railways and Canals, the Minister of Public Works, the Minister of the Interior and the Minister

of Marine. Under the regulations governing the administration of the Act the Minister was authorized to enter into agreements with the several provinces for the expenditure of the \$20,000,000 appropriated under the Act, either for the purpose of immediate relief or for assisting local public works undertaken to provide employment. The sum of \$4,000,000 was set aside to provide for the payment to municipalities of one-third of their expenditures in the direct relief of persons for whom work could not be procured, the Provincial Governments and the municipalities each being required to assume responsibility for one-third of the expenditures for this purpose.

In regard to public work undertaken for the relief of unemployment the regulations provided that agreements should be made between the Minister and the Provincial Governments whereby the municipalities would pay one-half the total expenditures on public works undertaken by them, the Dominion and Provincial Government concerned each contributing one-fourth of the total amount. Exception was made where municipalities, by reason of recent abnormal expenditures for unemployment relief, were unable to bear half the cost of such public works. All agreements under the Act were in accordance with the principles contained in the Fair Wages and Eight-Hour Day Act, 1930.

Agreements were entered into with the Canadian Pacific Railway Company and the Canadian National Railways whereby these railway companies agreed to expend approximately \$26,000,000 in the performance of certain works and the purchase of certain material over and above the normal expenditure of the said railways. As compensation to the said railway companies the Dominion agreed to pay out of the amount appropriated by the Unemployment Relief Act interest at the rate of 5 p.c., calculated for a period of 18 months, on the total estimated cost of the works.

A grant of \$500,000 was also made to the Railway Grade Crossing Fund, from which fund, under the provisions of the Railway Act, contributions are made for the purpose of obviating dangerous level crossings, in order to provide employment.

The following summary will show the standing of the appropriation as at Dec. 31, 1931.

20.—Unemployment Relief Allotments and Commitments under the Unemployment Relief Act, by Provinces, as at Dec. 31, 1931.¹

Province, etc.	Allotment.	Dominion Commit- ments Approved.	Balance Unallotted.	Total Cost of Public Works.
	\$	\$	\$	\$
Prince Edward Island.....	90,000	90,000	—	215,964
Nova Scotia.....	700,000	699,550	450	2,338,871
New Brunswick.....	500,000	500,000	—	1,454,250
Quebec.....	2,850,000	2,848,448	3,552	10,085,100
Ontario.....	3,850,000	3,850,000	—	15,556,172
Manitoba.....	900,000	899,996	4	2,581,800
Saskatchewan.....	1,000,000	1,000,000	—	2,890,050
Saskatchewan (drought area).....	500,000	500,000	—	1,014,540
Alberta.....	900,000	900,000	—	2,751,080
British Columbia.....	1,100,000	1,099,907	93	3,435,210
Yukon.....	20,000	20,000	—	20,000
National Parks (Dept. of the Interior).....	37,000	37,000	—	37,000
Banking Nova Scotia Coal.....	50,000	50,000	—	150,000
Grade Crossing Fund.....	500,000	500,000	—	2,445,340
Canadian Pacific Railway Company.....	863,550	863,550	—	11,514,000
Canadian National Railways.....	882,412	882,412	—	13,983,400
Direct Relief.....	4,000,000	3,437,069	562,931	—
Administration.....	100,000	43,062	56,938	—
Totals.....	18,842,962²	18,218,994	623,968	70,472,830

¹ A statement of the fund as at Dec. 31, 1930, will be found at p. 779 of the 1931 Year Book.

² By March 31, 1931, \$1,157,038 of the fund, formerly allotted, had lapsed, thus accounting for the total appropriation of \$20,000,000.

Subsection 5.—The Unemployment and Farm Relief Act, 1931.

The Parliament of Canada, at the Session which closed on Aug. 3, 1931, enacted the Unemployment and Farm Relief Act, 1931, being an Act "for relieving distress, providing employment and maintaining within the competence of Parliament, peace, order and good government throughout Canada".

The Act specifies that the Governor in Council may "provide for the construction, extension or improvement of public works, buildings, undertakings, railways, highways, subways, bridges and canals, harbours and wharves, and any other works and undertakings of any nature or kind whatsoever; assist in defraying the cost of the production, sale and distribution of the products of the field, farm, forest, sea, river and mine; assist provinces, cities, towns, municipalities, and other bodies or associations, by loaning moneys thereto or guaranteeing repayment of moneys thereby, or in such other manner as may be deemed necessary or advisable; take all such other measures as may be deemed necessary or advisable for carrying out the provisions of this Act".

No definite sum of money is set aside by the Act and the amounts to be expended by the Dominion Government for these purposes are left to the discretion of the Government, who will be guided by the unemployment situation existing.

During the summer months the various provinces, at the request of the Dominion Government, held surveys to determine the number of persons unemployed in order that the Dominion and Provincial Governments might be presented with a complete picture of unemployment conditions in Canada, and prepare programs of public works and undertakings to cope with the situation. The following statement shows the details of the unemployment registration which was completed Sept. 1, 1931:—

Province.	Married Men.	Single Men.	Women.	Not Classified.	Total.
Prince Edward Island.....	—	—	—	—	1,500
Nova Scotia ¹	—	—	—	—	18,000
New Brunswick.....	—	—	—	—	7,858
Quebec ¹	—	—	—	—	100,000
Ontario ²	71,500	58,500	—	—	130,000
Manitoba.....	26,436	10,248	4,755	450	41,839
Saskatchewan ³	—	—	—	—	26,094
Alberta.....	9,220	6,230	—	—	15,450
British Columbia ⁴	—	—	764	—	38,880
Total.....	—	—	—	—	379,721

¹ Figures are estimated, as no registration was held.

² Ontario reports the probable number in real need of employment to be about 70,000.

³ Including 8,237 married men, 4,851 single men and 764 women registered in cities.

⁴ This includes 5,940 transients and 6,745 aliens.

Under the Regulations governing the administration of the Act, the Minister of Labour is authorized to enter into agreements with the various provinces for payment to the provinces, or through the provinces to the municipalities, of such proportion of the expenditures made by the provinces or municipalities for public works and undertakings carried out under the Act as may be agreed upon. The regulations also provide that the eight-hour day must prevail on all works and undertakings carried out under the Act; that the wages paid may be fixed by the provincial

and municipal authorities, but must be such as are fair and reasonable; that only goods and materials of Canadian manufacture or production may be used; and that contracts may be let only to *bona fide* Canadian construction firms established and operating in Canada prior to Jan. 1, 1931; also that all persons employed on the works or undertakings to which the Dominion Government contributes shall be residents of Canada and, so far as practicable, of the locality in which the work is being performed, and in no case shall discrimination be made or permitted in the employment of, or in the granting of direct relief to, any persons by reason of their political affiliation, race or religious views.

A subcommittee of Council consisting of the Honourable the Minister of Labour, Chairman, the Honourable the Minister of Public Works, the Right Honourable Sir George Perley, K.C.M.G., the Honourable the Solicitor General, the Honourable the Minister of Agriculture, and the Honourable the Minister of Fisheries, was appointed to deal with unemployment relief. The subcommittee of Council was authorized to approve municipal and provincial public works and undertakings proposed to be carried out for the relief of unemployment. The subcommittee was also authorized to approve percentages of contribution to be made by the Dominion Government in respect of municipal and provincial expenditures for direct relief where suitable employment cannot be provided.

With regard to direct relief, arrangements were made whereby the Dominion Government agreed to contribute $33\frac{1}{3}$ p.c. of the total cost of municipal direct relief, the province and municipality each to contribute a like amount, and 50 p.c. of direct relief in unorganized territory.

Public works and undertakings carried on jointly with the provinces and municipalities under the Act are divided into four classes as follows:—

- (a) Municipal Works.
- (b) Provincial Works.
- (c) Provincial Highways.
- (d) Trans-Canada Highways.

With regard to (a) this class of work is carried out by the municipality, the Provincial and Dominion Governments contributing to the total cost.

With regard to (b) (c) and (d) these works are carried out by the Provinces, the Dominion Government bearing a proportion of the total expenditure.

The following table sets forth the total expenditure and Dominion proportion of public works and undertakings approved as at Dec. 31, 1931.

21.—Total Cost of Public Works Listed under the Unemployment and Farm Relief Act, 1931, together with the Proportion thereof Payable by the Dominion as at Dec. 31, 1931.

Province.	Municipal Works.		Provincial Works.		Provincial Highways.	
	Total Cost.	Dominion Proportion.	Total Cost.	Dominion Proportion.	Total Cost.	Dominion Proportion.
	\$	\$	\$	\$	\$	\$
Prince Edward Island.....	44,500	11,125	25,000	12,500	202,750	101,375
Nova Scotia.....	734,150	193,508	15,000	7,500	999,446	399,777
New Brunswick.....	437,500	116,875	292,445	146,223	1,031,500	412,600
Quebec.....	11,931,800	3,484,143	615,000	307,500	795,500	318,200
Ontario.....	16,882,010	3,850,000	151,667	75,833	4,000,000	1,600,000
Manitoba.....	3,714,924	1,846,204	1,387,809	377,202	611,911	305,955
Saskatchewan.....	2,900,845	1,450,423	950,000	475,000	1,570,998	785,499
Alberta.....	2,810,725	1,405,362	8,800	3,400	1,791,500	895,750
British Columbia.....	2,749,746	1,374,873	48,259	24,130	2,197,741	1,098,870
Totals.....	42,206,200	13,732,513	3,491,980	1,429,288	13,201,347	5,918,000

21.—Total Cost of Public Works Listed under the Unemployment and Farm Relief Act, 1931, together with the Proportion thereof Payable by the Dominion, as at Dec. 31, 1931—concluded.

Province.	Trans-Canada Highway.		Total Cost of Works.	Total Dominion Proportion.
	Total Cost.	Dominion Proportion.		
	\$	\$	\$	\$
Prince Edward Island.....	—	—	272,250	125,000
Nova Scotia.....	798,273	399,136	2,546,270	999,923
New Brunswick.....	148,000	74,000	1,909,445	749,697
Quebec.....	—	—	13,342,300	4,109,843
Ontario.....	3,500,000	1,750,000	24,533,677	7,275,833
Manitoba.....	524,000	262,000	6,238,644	2,791,362
Saskatchewan.....	—	—	5,421,843	2,710,922
Alberta.....	488,000	244,000	5,097,025	2,548,512
British Columbia.....	1,004,000	502,000	5,999,746	2,999,873
Totals.....	6,462,273	3,231,136	65,361,800	24,310,965

In addition to the above listed appropriations to the provinces for public works, the Dominion Government is undertaking works for purely Dominion purposes amounting to \$6,419,837.

Public works and undertakings in the different provinces were started at various dates but in no case prior to Aug. 18, 1931.

The number of men employed and the number of man-days worked as at Dec. 31, 1931, were 265,412 and 3,609,317 respectively. The figures are not quite complete as no report for Prince Edward Island was received for the months of November and December. In the number of persons to whom employment was afforded no one individual is counted more than once. By provinces the figures are as follows, for individuals employed and man-days (of 8 hours each) worked, respectively: P.E.I., 1,086 and 6,611; N.S., 30,137 and 334,397; N.B., 28,000 and 385,028; Que., 24,152 and 253,574; Ont., 56,000 and 550,000; Man., 37,586 and 313,367; Sask., 8,433 and 260,053; Alta., 32,214 and 390,913; B.C., 31,894 and 868,712 and for work done directly under Dominion departments 15,910 and 146,662.

Section 10.—Old Age Pensions.

The Old Age Pensions Act, 1927.—Legislation respecting Old Age Pensions (R.S.C., 1927, c. 156) was adopted by the Dominion Parliament in 1927. Under the provisions of this statute the Dominion Government reimburses each province participating in the Dominion scheme to the extent of one-half of the provincial expenditure for old age pensions. An amendment passed at the 1931 session of Parliament (c. 42, Statutes of 1931) provided that the Dominion contribution to the provinces be increased from 50 p.c. to 75 p.c. of the provincial disbursements for old age pensions pursuant to a provincial statute authorizing and providing for the payment of such pensions to the persons and under the conditions specified in the Act and the Regulations made thereunder. At the close of 1931 new agree-

ments incorporating the provisions of the amending Act of 1931 were in process of negotiation between the Dominion Government and the provinces which have already given effect to the system. Certain proposed changes in the regulations were also under consideration. When new agreements are completed the amount of the Dominion contribution will be revised accordingly.

Sec. 5 provides that before any such agreement is made with the province the scheme for the administration of pensions proposed to be adopted by the province shall be approved by the Governor in Council, and that no change in such scheme shall be made without the consent of the Governor in Council.

Sec. 8 reads as follows:—

(1) Provision shall be made for the payment of a pension to every person who, at the date of the proposed commencement of the pension:—

- (a) is a British subject, or, being a widow was such before her marriage;
- (b) has attained the age of seventy years;
- (c) has resided in Canada for the twenty years immediately preceding the date aforesaid;
- (d) has resided in the province in which the application for pension is made for the five years immediately preceding the said date;
- (e) is not an Indian as defined by the Indian Act;
- (f) is not in receipt of an income of as much as three hundred and sixty-five dollars (\$365) a year, and
- (g) has not made any voluntary assignment or transfer of property for the purpose of qualifying for a pension.

(2) The receipt of a pension shall not by itself constitute a disqualification from voting at any provincial or municipal election.

Sec. 9 provides that the maximum pension payable shall be \$240 yearly, subject to reduction by the amount of the income of the pensioner in excess of \$15 a year. The pension authority may accept a transfer of the pensioner's interest in a dwelling house in which he resides, when the value of the dwelling will not be computed in calculating the amount of pension payable. The pension authority is entitled to recover out of the estate of any deceased pensioner the amount of pension payments with interest at 5 p.c., subject to the limitation that no claim shall be made for such recovery out of any part of the estate which passes by will or intestacy to any other pensioner or to any other person who has contributed since the grant of the pension or for the last three years during which the pension has been paid, to the pensioner's support.

Secs. 10, 12, 13 and 14 provide for the distribution of the pension burden among the provinces where the pensioner has resided during the 20 years immediately preceding the grant of the pension. Sec. 11 provides for a reduction of pension where a pensioner has resided for a portion of the 20 years in a province with which no agreement is in force. Sec. 15 provides for a suspension of the pension where a pensioner has transferred his residence to some place out of Canada. It is provided by sec. 16 that a pension shall not be subject to alienation or transfer by the pensioner or to seizure in satisfaction of any claim against him.

The Governor in Council was empowered by Sec. 19 of the Act to make Regulations pursuant to this section. An Order in Council dated Dec. 21, 1928, rescinded all existing Regulations and approved of new Regulations. Further changes in the Regulations were brought into effect on May 13, 1930.

During 1931 no additional provinces availed themselves of the provisions of the Dominion Act, and old age pensions continued to be paid in the provinces of Alberta, British Columbia, Manitoba, Ontario and Saskatchewan, and in the Northwest Territories. The New Brunswick Legislature at its 1930 session passed an Old Age Pensions Act, while similar legislation was enacted in 1931 by the provinces of Nova Scotia and Prince Edward Island, each Act to come into force on a day to be fixed by proclamation. The Gold Commissioner of the Yukon Territory was given authority, by a Yukon Territorial Council Ordinance passed in 1927, to enter into an agreement with the Dominion Government for the purpose of obtaining the benefit of the Old Age Pensions Act for residents in the Territory. No proposed scheme of administration for adoption in the Yukon Territory has been submitted for the approval of the Governor in Council. An Act was assented to by the Quebec Legislature in 1930 providing for the creation of a commission to study a system of social insurance for the province. On Oct. 30, 1930, a commission of seven members was appointed to study, among other matters, the subject of old age insurance. No report of the findings of the commission on this particular subject has yet been made. At present Quebec is the only province which has not enacted old age pensions legislation and, under the terms of the Dominion Act, is therefore ineligible to enter into agreement with the Dominion Government to obtain the benefit of the provisions of the Dominion Act.

Table 22 is a financial summary of old age pensions in Canada as at Dec. 31, 1931, while Table 23 gives the countries of birth of persons receiving old age pensions at that date, Canada and England leading. Table 24 is a statistical summary of old age pensions as at the end of 1931.

22.—Financial Summary of Old Age Pensions in Canada, by Provinces, as at Dec. 31, 1931.

Item.	Alberta. — Act Effective Aug. 1, 1929.	British Colum- bia. — Act Effective Sept. 1, 1927.	Manitoba. — Act Effective Sept. 1, 1928.	Ontario. — Act Effective Nov. 1, 1929.	Saskat- chewan. — Act Effective May 1, 1928.	North- west Terri- tories. — Order in Council Effective Jan. 25, 1929.	Total.
total numbers of pensioners as at Dec. 31, 1931.....	4,191	6,298	6,840	41,228	7,389	5	65,951
average monthly pensions...\$	18.87	19.36	19.13	18.80	19.42	19.84	
total amounts of pensions paid during calendar year 1931.....\$	842,108	1,374,987	1,497,054	8,821,343	1,563,203	1,576	14,100,272
Dominion Government's shares of expenditures...\$	421,054	687,494	748,527	4,410,672	781,602	1,576	7,050,924
total amounts of pensions paid since inception of Old Age Pensions Act to Dec. 31, 1931.....\$	1,607,669	4,313,784	4,141,556	16,566,613	3,783,743	3,228	30,416,593
Dominion Government's shares of expenditures.....\$	803,834	2,156,892	2,070,778	8,283,307	1,891,872	3,228	15,209,910

23.—Country of Birth of Old Age Pensioners, by Provinces, as at Dec. 31, 1931.

Country of Birth.	Alberta.	British Columbia.	Manitoba.	Ontario.	Saskatchewan.	North-west Territories.	Total.
Canada.....	1,881	2,616	3,008	30,224	3,051	5	40,785
England.....	661	1,928	989	5,742	901	-	10,221
Scotland.....	245	683	432	1,490	390	-	3,240
Ireland.....	116	268	202	1,655	136	-	2,372
United States.....	447	284	122	735	422	-	2,000
Austria.....	171	18	467	49	701	-	1,406
Poland.....	140	14	545	114	347	-	1,160
Germany.....	104	64	54	417	135	-	824
Russia.....	63	3	214	156	348	-	784
Sweden.....	89	96	104	63	175	-	527
Iceland.....	12	13	426	2	73	-	536
Norway.....	124	68	42	34	235	-	503
Hungary.....	6	2	15	5	162	-	190
France.....	18	20	61	42	43	-	184
Italy.....	3	49	5	113	3	-	173
Roumania.....	21	3	30	23	94	-	171
Newfoundland.....	6	32	2	112	5	-	157
Wales.....	15	1	8	63	23	-	110
Belgium.....	6	14	48	7	19	-	94
Denmark.....	22	21	13	18	17	-	91
Finland.....	11	22	3	24	12	-	73
Switzerland.....	10	5	6	12	6	-	39
Channel Islands.....	-	8	1	28	-	-	37
Czechoslovakia.....	8	6	6	6	10	-	36
Holland.....	3	11	13	5	4	-	36
British West Indies.....	-	4	4	19	1	-	28
Australia.....	2	7	4	11	-	-	24
India.....	-	8	3	6	1	-	18
South Africa.....	1	4	-	8	-	-	13
Yugoslavia.....	-	-	-	1	11	-	12
Syria.....	-	1	2	7	2	-	12
British East Indies.....	-	1	-	10	-	-	11
Turkey.....	-	1	-	8	1	-	10
Isle of Man.....	-	4	-	1	4	-	9
Gibraltar.....	1	1	-	4	-	-	6
Greece.....	2	2	-	2	-	-	6
Japan.....	-	6	-	-	-	-	6
Luxembourg.....	1	-	1	1	3	-	6
New Zealand.....	-	2	-	3	-	-	5
Latvia.....	-	-	3	-	-	-	3
Lithuania.....	-	-	2	1	-	-	3
Malta.....	-	-	-	2	1	-	3
Bahamas.....	-	1	-	-	1	-	2
British Guiana.....	-	-	1	1	-	-	2
Bulgaria.....	2	-	-	-	-	-	2
China.....	-	2	-	-	-	-	2
Persia.....	-	-	-	-	2	-	2
Peru.....	-	2	-	-	-	-	2
Spain.....	-	-	1	1	-	-	2
Algeria.....	-	-	1	-	-	-	1
Arabia.....	-	-	-	1	-	-	1
Chile.....	-	1	-	-	-	-	1
Phillipine Islands.....	-	1	-	-	-	-	1
Samoa Islands.....	-	-	1	-	-	-	1
South Sea Islands.....	-	1	-	-	-	-	1
Totals.....	4,191	6,298	6,840	41,228	7,339	5	65,401

The percentage of old age pensioners born in Canada to all such pensioners was 61 and that of pensioners born in the British Isles 24, so that 85 p.c. of the receiving old age pensions in Canada were born either in Canada or in the British Isles. Pensioners born in the United States represented 3 p.c. of the total number of pensioners.

**24.—Statistical Summary of Old Age Pensions in Canada, by Provinces, as at
Dec. 31, 1931.**

Item.	Alberta.	British Colum- bia.	Manitoba.	Ontario.	Saskat- chewan.	North- west Terra- tories.	Total.
Total numbers of pensioners..	4,191	6,298	6,840	41,228	7,389	5	65,951
Percentages of pensioners to total population.....	0.57	0.90	0.98	1.20	0.80	0.05	—
Percentages of persons over 70 years of age to total popula- tion.....	1.17	1.84	1.69	3.48	1.16	1.17	—
Percentages of pensioners to population over 70 years of age.....	48.97	49.24	57.88	34.56	68.83	4.46	—
<i>Conjugal Condition—</i>							
Married—							
Males.....	1,230	1,532	2,145	9,889	2,473	2	17,271
Females.....	573	767	1,230	5,420	1,299	—	9,289
Single—							
Males.....	322	916	334	2,670	339	—	4,581
Females.....	71	203	138	2,828	68	—	3,308
Widowed—							
Males.....	797	964	1,011	6,393	1,219	1	10,385
Females.....	1,092	1,588	1,918	13,732	1,901	2	20,233
Living apart—							
Males.....	84	237	47	173	62	—	603
Females.....	22	91	17	123	28	—	281
Totals, males.....	2,433	3,649	3,537	19,125	4,093	3	32,840
Totals, females.....	1,758	2,649	3,303	22,103	3,296	2	33,111
<i>Classification of British Sub- jects—</i>							
Birth.....	2,922	5,602	4,693	39,645	4,512	5	57,379
Naturalization.....	1,182	579	2,040	1,074	2,819	—	7,694
Marriage.....	87	117	107	509	58	—	878
Totals.....	4,191	6,298	6,840	41,228	7,389	5	65,951
<i>Numbers of pensioners with previous residence in other provinces during the 20 years immediately preceding the date of commencement of pension—</i>							
Alberta.....	—	571	66	109	120	2	868
British Columbia.....	145	—	83	80	69	1	378
Manitoba.....	118	339	—	176	471	—	1,104
New Brunswick.....	27	57	10	32	24	—	150
Nova Scotia.....	32	91	21	47	34	—	225
Ontario.....	340	389	248	—	584	—	1,561
Prince Edward Island.....	14	18	2	2	15	—	51
Quebec.....	87	71	52	428	93	—	731
Saskatchewan.....	189	444	278	190	—	—	1,101
Northwest Territories.....	—	2	17	—	—	—	19
Yukon Territory.....	4	31	—	—	—	—	35
Totals.....	956	2,013	777	1,064	1,410	3	6,223

Section 11.—The Co-operative Movement in Canada.

A general article on "The Co-operative Movement in Canada" appeared at p. 704-720 of the 1925 edition of the Year Book under the three sub-headings of "Consumers' Co-operation", "Co-operative Credit", and "Producers' Co-operation".¹ Because of the pressure upon space, this article is not reprinted here, but a digest of the latest available material on each of these three sub-divisions of co-operation follows.

¹ The article referred to above was prepared for the Year Book by Miss Margaret Mackintosh, M.A., of the Department of Labour, Ottawa.

Subsection 1.—Consumers' Co-operation.

The co-operative store was first introduced into Canada by miners who had had experience of co-operation in Great Britain. The first co-operative store was opened at Stellarton, N.S., in 1861, and continued to do business until 1916. Many similar ventures were afterwards commenced, but a considerable number failed through their neglect to build up adequate reserve funds. In 1909 the Co-operative Union of Canada was formed, with six affiliated societies and 1,595 members; since October, 1909 it has published a monthly, *The Canadian Co-operator* from which the following statistics (Table 25) showing the growth of consumers' co-operation in the societies affiliated with the Co-operative Union have been taken.¹

25.—Statistics of Co-operative Societies Affiliated with the Co-operative Union of Canada, 1909-30.

NOTE.—No data for the year 1916.

Year.	Societies.	Members.	Share and Loan Capital.	Reserve Funds.	Stock in Trade.	Other Assets.	Sales.	Net Profits.	Purchase Dividends Paid.
	No.	No.	\$	\$	\$	\$	\$	\$	\$
1909....	6	1,595	38,460	11,090	53,820	40,882	347,064	—	22,828
1910....	9	2,605	97,965	19,994	123,946	85,572	569,311	36,596	28,235
1911....	12	3,788	143,781	25,070	168,895	102,903	789,292	44,535	47,338
1912....	17	5,000	178,126	31,806	191,122	172,658	1,194,065	88,782	67,256
1913....	17	5,822	166,051	42,498	205,300	183,220	1,424,985	78,399	63,442
1914....	14	5,810	166,307	36,219	181,867	129,022	1,133,081	73,490	63,881
1915....	8	3,239	143,319	21,118	94,672	109,911	657,006	53,270	47,995
1917....	13	4,673	248,253	27,941	205,899	145,732	1,264,247	91,079	82,287
1918....	12	4,746	301,368	38,257	252,921	169,545	1,488,541	123,363	115,969
1919....	15	6,306	360,834	47,463	370,676	205,222	2,132,726	156,870	138,216
1920....	20	7,427	394,471	40,419	368,090	206,625	1,465,253	165,904	157,424
1921....	14	5,919	374,996	39,001	280,968	243,397	1,190,765	154,713	144,512
1922....	12	6,552	450,996	94,781	251,855	286,223	2,166,196	157,321	138,762
1923....	7	4,646	381,656	97,591	232,294	286,847	2,249,380	172,972	140,991
1924....	14	7,047	516,909	94,856	271,713	445,071	2,675,852	212,493	183,986
1925....	16	7,308	512,808	151,791	351,732	484,042	2,792,872	158,140	118,945
1926....	20	7,804	616,431	208,449	426,937	660,930	3,358,162	230,535	165,062
1927....	24	8,914	673,827	228,504	554,101	778,508	4,481,574	283,777	227,733
1928....	33	74,836	3,905,813	2,523,646	1,103,323	13,305,918	8,147,967	1,057,581	252,976
1929....	41	10,648	769,755	484,864	663,476	1,006,628	5,030,560	238,302	238,302
1930....	38	10,462	693,561	362,127	617,538	1,124,572	4,826,642	243,884	195,178

² The decrease in membership is accounted for by the withdrawal of the United Farmers of Canada, Saskatchewan Section, Ltd., and the United Grain Growers, Ltd., the non-inclusion of the latter society being also mainly responsible for the decreases in the figures shown in the remaining columns.

The progress shown by the returns from the societies affiliated with the Co-operative Union does not represent the whole growth of the consumers' co-operative movement in Canada. Although the societies affiliated with the Co-operative Union are among the oldest and best established, there is a larger number of consumers' co-operative societies outside the Union than within it, the great majority of these being in the western provinces. In 1926, the Manitoba Co-operative League was organized to link up the co-operative societies in that province, and a similar organization was formed in Alberta in 1923. In Saskatchewan a conference of representatives of co-operative societies has been held annually since 1923.

The following table shows the number of co-operative societies in the Dominion, provincially arranged by groups, together with their respective memberships:—

¹ For details regarding the Co-operative Union of Canada and its activities, see the 1925 Year Book pp. 708-9.

6.—Number and Membership of Co-operative Associations in Canada, by Provinces and Groups, 1931.

NOTE.—The figures for the Co-operative Union of Canada, which has 38 affiliated societies and a total membership of 10,462, have been included in the respective groups to which they belong.

Province.	Pro- ductive.	Market- ing.	Pro- ductive and Market- ing.	Distri- butive.	Marketing and Distri- butive.	Credit and Savings.	Com- munity Hall Societies.	Miscel- laneous.	Total.
NUMBER OF ASSOCIATIONS.									
Interprovincial....	-	21	-	-	1	-	-	-	22
Prince Edward Is- land.....	-	1	1	-	-	-	-	-	2
Nova Scotia.....	1	30	1	10	5	-	-	1	48
New Brunswick...	6	16	1	14	-	-	-	5	42
Quebec.....	26	86	19	1	6	6	-	18	162
Ontario.....	3	46	13	39	24	3	-	8	136
Manitoba.....	2	60	1	67	-	-	4	9	143
Saskatchewan....	4	5	2	179	2	-	63	68	323
Alberta.....	7	28	2	44	5	4	-	12	102
British Columbia.	30	40	14	28	9	-	2	29	152
Totals....	79	333	54	382	52	13	69	150	1,132

REPORTED MEMBERSHIP.

Interprovincial...	-	238,458	-	-	30,000	-	-	-	268,458
Prince Edward Is- land.....	-	4,500	3,500	-	-	-	-	-	8,000
Nova Scotia.....	12	933	94	5,798	404	-	-	28	7,269
New Brunswick...	659	229	43	7,311	-	-	-	1,802	10,044
Quebec.....	13,754	6,413	974	101	321	41,000	-	872	63,435
Ontario.....	123	6,147	2,943	4,331	23,125	1,693	-	945	39,307
Manitoba.....	30	42,977	29	3,859	-	-	268	265	47,428
Saskatchewan....	37,015	25,675	1,925	40,185	264	-	3,891	153,242	262,197
Alberta.....	3,876	10,161	1,940	5,926	2,454	143	-	441	24,941
British Columbia	3,414	9,391	2,860	2,711	5,719	-	36	1,210	25,341
Totals....	58,883	344,884	14,308	70,222	62,287	42,836	4,195	158,805	756,420

Subsection 2.—Co-operative Credit in Quebec.

A form of co-operation which has achieved great success is that which provides short-term credit for small farmers and industrial workers in the province of Quebec. In 1900, what are known as "Les Caisses Populaires", or People's Banks, were begun with the establishment, by the late Alphonse Desjardins, of La Caisse Populaire at Lévis. M. Desjardins adopted the principles of lending money only for approved purposes to carefully selected members in a restricted area, of limited liability, of withdrawable shares of small amount payable by instalments, and of distribution of profits. These banks are for the most part established in agricultural districts. Loans are made to purchase agricultural implements at cash prices, to increase farm live stock, to improve farm buildings, to tide over a period of depression, to get out of a merchant's debt and for various other similar purposes. The loans, though comprised within the term "short credit", are for longer periods than are usual in ordinary commercial transactions because agricultural operations necessarily extend over longer periods than those of trade. They may be for 12, 15, or even 24 months, because they must give time for the farmer to realize on his products.

At present these banks are organized under the Quebec Syndicates Act, 1906. The value of the shares is generally \$5, which may be paid in instalments. The liability of the shareholders is limited to the value of their shares, which generally does not exceed \$2,000 per shareholder. Shareholders and borrowers must reside within the area of the bank's field of operations, except that under the by-laws shareholders who remove from the locality may continue their holdings in the bank but without participation in the management by holding office. Larger loans are made upon mortgage and the smaller ones upon notes, but a portion of the loan capital and interest must be repaid at fixed periods in such a way as to extinguish the debt within a determinate time. Each bank is administered by a board of from five to nine members. A credit committee of at least three members passes on the loans requested by shareholders, and a board of supervision of three members checks loans and value of securities and audits the accounts. The members of these boards give their services gratuitously.

The following table (Table 27) exhibits the progress of the banks during the sixteen years 1915 to 1930. The table is compiled from statistics included in successive volumes of the Quebec Year Book.

27.—Progress of Co-operative People's Banks in Quebec, 1915-30.

Year.	Banks Reporting.	Members.	Depositors.	Borrowers.	Loans Granted.	Value of Loans Granted.	Profits Realized.
	No.	No.	No.	No.	No.	\$	\$
1915.....	91	23,614	13,696	6,728	8,983	1,483,160	89,893
1916.....	94	25,028	15,613	6,696	11,201	1,641,258	100,945
1917.....	93	25,669	18,977	7,458	12,741	2,306,172	148,594
1918.....	98	27,593	20,672	8,056	14,293	2,623,096	180,039
1919.....	100	29,795	23,451	9,148	14,386	3,667,004	238,375
1920.....	113	31,752	26,238	9,213	15,390	4,341,544	311,322
1921.....	100	31,029	30,570	9,219	14,983	1,248,725	352,940
1922.....	108	33,166	30,583	8,999	13,367	2,891,092	334,390
1923.....	111	32,173	29,771	8,373	12,273	3,429,444	354,809
1924.....	119	31,250	30,874	8,414	11,017	3,763,852	398,976
1925.....	122	33,279	33,527	9,384	13,682	3,909,790	449,531
1926.....	154	36,298	37,343	10,416	15,843	4,496,956	468,038
1927.....	159	41,365	40,753	11,754	16,832	4,778,761	537,299
1928.....	168	41,374	40,568	11,885	17,403	5,047,769	571,666
1929.....	178	44,835	44,685	13,553	17,994	4,249,650	645,616
1930.....	179	45,767	44,940	14,278	18,857	3,724,537	645,096

From the table it will be seen that good progress has been made during the sixteen-year period. The number of banks reporting increased from 91 in 1915 to 179 in 1930, the membership from 23,614 to 45,767, the number of depositors from 13,696 to 44,940, borrowers from 6,728 to 14,278, the number of loans granted from 8,983 to 18,857, their amount from \$1,483,160 to \$3,724,537, and the profits realized from \$89,893 to \$645,096.

Subsection 3.—Producers' Co-operation.¹

The chief co-operative organizations of producers in Canada, as was clearly shown in the article on co-operation published in the 1925 issue of the Year Book, are still engaged in agricultural operations, including the grain growers of the prairies, the dairy farmers of Ontario and Quebec, and the fruit and vegetable growers of Nova Scotia, Ontario and British Columbia. The largest co-operative organizations in Canada are found among the grain growers of the Prairie Provinces.

¹ See also pp. 712-20 of the 1925 Year Book, and pp. 711-13 of the 1926 Year Book, and pp. 786-87 of the 1931 Year Book.

The Wheat Pools¹.—During 1931 important developments have taken place in the organization and policies of the co-operative marketing organizations known as the Canadian Wheat Pools. The continued depression in the world wheat market has weighed heavily upon the prairie co-operatives. The principle of pooling practised on a declining market involved financial hazards not fully realized in the earlier years of the co-operatives. Since the inception of the Wheat Pools an initial payment had been made to the farmer on delivery of his wheat, with further payments in accordance with the price ultimately received for the crop. The crop year of 1929-30 commenced with an apparent world shortage of wheat and the initial payment established by the Pools amounted to \$1 per bushel, basis in store Port Arthur and Fort William. Large and unexpected reserves in the Argentine, in addition to an exceptionally large European wheat crop in 1929, combined with the repercussions of the stock market crash of October, 1929, carried wheat prices downward. Early in 1930 wheat reached price levels below the Pools' initial payment with the bulk of the Pools' holdings still unsold. To meet the emergency, and to prevent the sudden liquidation of large stocks of Canadian wheat, the three Provincial Governments guaranteed the loans of the banks to the Pools. Final accounting of the marketing of the 1929 crop found the Pools heavily indebted to the Provincial Governments and the Governments called upon to meet the losses incident to the guarantees assumed.

With the 1930 crop in prospect and the wheat market still declining, the initial payment of 60 cents a bushel proved too high and once again the Pools found themselves in financial difficulty. The Dominion Government lent assistance to insure the orderly marketing of the 1930 crop. At this stage the Pools were placed under new general management and steps taken to eliminate the direct selling policies instituted by the Pools. The European offices of the organization were closed and subsequently offices in the United States and Eastern Canada were withdrawn.

With wheat prices at Winnipeg ranging from 50 to 60 cents per bushel and with regard to the depressed state of the cereal industry in western Canada, it became evident that in handling the 1931 crop, the Pools would have to make a new financial arrangement with their members. A safe initial payment at the reigning price levels would be too small to meet the urgent financial requirements of the farmer. After a series of conferences with the four Governments who were now interested in the Pools, it was decided that in handling the 1931 crop Pool members could have the option of delivering their wheat on the open market basis or pooling as formerly, if desired. Anticipating that a great many Pool members would want the full market price of their wheat at the time of delivery, the Pools reorganized themselves on this basis and are now largely operating as co-operative elevator companies. The Central Selling Agency is continuing to operate in so far as stocks of 1930 wheat are concerned, but the three provincial organizations are handling and marketing the 1931 crop on a provincial basis. In view of the financial interest of the three Provincial Governments in the Pools, the former are represented on the Boards of the respective provincial organizations. At the present time, therefore, the Pools are operating as co-operative elevator companies very similarly to the operations of the organizations they superseded in 1923 and 1924, but with their physical facilities greatly expanded.

¹ Prepared by Dr. T. D. Grindley, Chief, Agricultural Statistics Branch, Dominion Bureau of Statistics.

Section 12.—Labour Legislation in Canada.

In the Canada Year Book for 1929 at pp. 755-762 a summary was given of Dominion and provincial labour laws in force at the end of 1928 together with a note on the division of legislative jurisdiction as between the Dominion and the provinces. Summaries of 1929 and 1930 legislation were published respectively in the 1930 Year Book at pp. 746-748, and in the 1931 Year Book at pp. 788-790.

Labour laws enacted during 1931 by the Parliament of Canada and the several provincial legislatures are contained in the Report on Labour Legislation in Canada, 1931, issued by the Dominion Department of Labour. The following is a summary of the principal changes during that year.

Dominion Labour Legislation.—The Government Employees' Compensation Act was amended to extend its benefits to all employees in the service of His Majesty except those for whom provision is made under other Statutes. The definition of compensation was amended to include any benefits, expenses or allowances that are provided for under provincial compensation Acts.

The Vocational Education Act appropriates the sum of \$750,000 per annum for a period of fifteen years from which payments may be made annually to the government of any province for the purpose of promoting and assisting vocational education. The payments are conditional upon the making of an agreement, approved by the Governor in Council, between the Minister of Labour and the Government of the province concerned, and are in proportion to population.

The Unemployment and Farm Relief Act, 1931¹, provides for the payment out of the Consolidated Revenue Fund of Canada of such moneys as the Governor in Council may deem it expedient to expend for relieving distress, providing employment and maintaining peace, order and good government in Canada. The Governor in Council may, among other things, provide for the construction of public works and undertakings; assist in defraying the cost of production, sale and distribution of the products of field, farm, forest, sea, river and mine; assist provinces, cities, towns, municipalities and other bodies or associations by loan of money or guarantee of repayment of money.

Provincial Labour Legislation.—In Saskatchewan the Weekly Half-holiday Act, which applies to cities having a population of 7,000 and over, provides for the closing of shops at 12 o'clock noon each Wednesday from April 1 to Aug. 31. Exemption is granted to certain trades and businesses.

The Nova Scotia Minimum Wage Act was amended to enable an employee who has been paid less than the minimum wage to sue for the difference between that wage and the amount actually received and also to require employers to furnish to the Board statements of the names, ages, average hours and actual earnings of employees and any other information required.

The Saskatchewan Minimum Wage Act, which applies to cities only, was amended to enable the Board to extend its provisions to any town with a population of 1,500 or more.

The Manitoba Minimum Wage Act was amended to include boys under 18 years of age within its scope.

Professions whose members are incorporated under the laws of the province were withdrawn from the scope of the Male Minimum Wage Act of British Columbia.

¹ See also pp. 657-9.

The Civil Code of Quebec was amended to permit a married woman, whose husband is unable or unwilling to act, to take action alone to recover damages for personal injury. The amendment further reserves to the wife the proceeds of her personal work, the economies therefrom, and the movable or immovable property acquired by her by investing the same, as well as any compensation received by her in an action for damages for personal injury. This provision is subject to certain conditions as to prudent management, and to restrictions arising out of the law of community of property.

The Mothers' Pensions Act of British Columbia was revised and amended. New provisions include a residence qualification of three years instead of eighteen months. The amount of real property used as a home which the mother may own without being excluded from the benefits of the Act is increased from \$1,500 to \$2,000.

The Saskatchewan Child Welfare Act was amended to provide for the payment of a mother's allowance to a mother whose husband is permanently incapacitated by blindness, and to a foster mother caring for children whose mother is dead and whose father is incapacitated or whose parents are both incapacitated.

In Manitoba the Child Welfare Act was amended with regard to mothers' allowances which are now payable in respect of a child born in Canada, or a child whose father or mother at the time of the death of the father or his confinement in a hospital for mental diseases or his total and permanent disablement, was, or if living is, a British subject, or a child whose mother, if the father at his death was not a British subject by naturalization, subsequently becomes a naturalized British subject.

The Alberta Child Welfare Act, 1925, which will come into force on proclamation, was amended to provide for its proclamation in whole or in part. Provision is made for the appointment, in cities and towns with a population of 5,000 or over, of an agent or officer to enforce the Act. A child under 16 years of age who is employed anywhere between the hours of 9 p.m. and 8 a.m. or a child under 15 years of age, not exempt from school attendance, who habitually hawks, peddles or sells articles in public places during school hours or after 9 p.m., may be apprehended without warrant as a "neglected child".

In Ontario the Apprenticeship Act was amended to include in the definition of "employer" a person to whom an apprentice may be bound. The School Law Amendment Act amends the Vocational Education Act to empower the Minister to join two or more municipalities to form one vocational school district.

The Alberta Trade Schools Regulation Act requires such schools to be registered and provides for their inspection and for the making of regulations governing their operation.

A new Workmen's Compensation Act in Quebec establishes a collective liability system of compensation in that province, administered by a Commission of three members. The Act covers practically the whole industrial field, but employers in certain municipal undertakings, railways, car shops, telephones, telegraphs, etc., instead of contributing to the accident fund, are individually liable for compensation and medical aid. Compensation to a widow is fixed at \$40 per month, with an additional \$10 per month for each child under 16 years of age. Orphan children receive \$15 per month each to the age of 16. Funeral expenses of \$125 are allowed. Compensation for total and partial disability is fixed at 66⅔ p.c. of average earnings or the diminution of average earnings, as the case may be, subject to a minimum

payment in total disability cases of \$12.50 per week or average earnings. Average earnings are computed at a rate not exceeding \$2,000 per annum. Medical aid is provided and paid for out of the accident fund, or by the employer if the latter is individually liable for compensation. Compensation is also provided for in the schedule to the Act in case of industrial diseases and the Commission is authorized to take measures for the rehabilitation in industry of injured workmen.

The Workmen's Compensation Act of Saskatchewan, which applies to certain classes of workers not covered by the Workmen's Compensation (Accident Fund) Act, was amended to exclude workers employed otherwise than in manual labour whose remuneration exceeds \$3,000 per annum. The amount was formerly \$2,000 per annum.

The Blind Workmen's Compensation Act of Ontario provides for the payment from the Consolidated Revenue Fund of the province to the Workmen's Compensation Board or to the employer, as the case may be, of the full cost of compensation for an accident to a blind workman where such cost exceeds \$50. The assessment on the employer is to be fixed at such amount as is deemed fair, having regard to the provisions of the Workmen's Compensation Act. The Canadian National Institute for the Blind is given jurisdiction as to the nature of the work a blind workman is to do.

Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Alberta and British Columbia authorized by statute the implementing of the Unemployment Relief Act passed by the Parliament of Canada at the special session held in September, 1930 (Canada Year Book, 1931, pp. 778 and 788).

A section added to the Professional Syndicates Act of Quebec provides that if it be stipulated in any contract that workmen or the members of a syndicate union or federation of syndicates shall receive a stated wage, such workmen or members, although not a party to the contract, are entitled to the wages therein stated, notwithstanding any renunciation thereto afterwards agreed upon by them. Syndicates are authorized to exercise before any court of law all the rights of their members with respect to acts directly or indirectly prejudicial to the collective interest of the profession which they represent.

The Nova Scotia Factories Act was amended to require employers to submit plans of their factories to the inspector.

The Manitoba Power Commission Act authorizes the Power Commission to issue such orders relating to the work to be done in the installation, removal, repair, etc., of electrical works as it may deem necessary for the safety of workmen.

An amendment to the Ontario Department of Labour Act authorizes the Minister of Labour, with the approval of the Lieutenant-Governor in Council, to make Regulations for the protection of workmen engaged on work in the construction of which men are employed in compressed air, and also in the construction of tunnels and open caisson work.

The Quebec Silicosis Act which came into force on Sept. 1, 1931, requires every person employed in the cutting, polishing or finishing of granite to have a medical certificate which must be renewed annually. The employer in a workyard or shop where such work is carried on must furnish for his employees at his own expense such masks or other safety devices as are approved by the Minister of Mines as a protection against silicosis, and take such precautions as the Minister may prescribe. The Minister, with the approval of the Lieutenant-Governor in Council, may make regulations for the protection of workers in such processes.

and may extend the operation of the Act to cover workmen employed in the cutting, etc., of substances other than granite. An amendment to the Quebec Mining Act requires workmen employed below ground in a mine, or in dry rock crushing operations at the surface, to be examined annually for silicosis by a medical officer appointed under the Workmen's Compensation Act, and to have certificates issued by him. Workmen employed underground for less than 50 hours per calendar month are exempt.

In Quebec and Manitoba legislation was enacted providing for the establishment of a Department of Labour, but in Manitoba the law will not come into force until proclaimed.

Section 13.—Legislation Respecting Combinations in Restraint of Trade.

In the 1927-28 edition of the Canada Year Book at pp. 765-770 a general article on Canadian legislation concerning trade combinations and monopolies against the public interest will be found under the heading "Legislation Respecting Combinations in Restraint of Trade". In addition to an outline of the Combines Investigation Act, and a review of the principal cases dealt with under the Act up to Mar. 31, 1927, the article includes a brief statement of the provisions against combines as contained in the Criminal Code,¹ the Customs Tariff,² the Excise Act,³ and the Patent Act.⁴ A further section of the article summarizes former Canadian legislation for the investigation of combines, including the Combines Investigation Act of 1910 and the Combines and Fair Prices Act of 1919.

The Combines Investigation Act.—The Combines Investigation Act (R.S.C., 1927, c. 26) is designed, as its full title indicates, "to provide for the investigation of combines, monopolies, trusts and mergers", and declares to be unlawful only such combines as "have operated or are likely to operate to the detriment or against the interest of the public, whether consumers, producers or others". The statute provides that a preliminary inquiry shall be made by the Registrar on receipt of an application signed by any six British subjects resident in Canada, or if the Registrar has reason to believe that a combine exists, or if the Minister of Labour so directs. If the preliminary inquiry discloses sufficient evidence to justify further investigation, this may be conducted by the Registrar or by a special Commissioner appointed by the Governor in Council. Full authority is given the Registrar and the Commissioner to examine witnesses on oath and compel the production of records and documents.

The remedies provided by the Act are those of publicity and penalty. The proceedings are conducted in private, unless otherwise ordered by the Minister, but the report of any Commissioner is required to be published within fifteen days of its receipt by the Minister. Whenever in the opinion of the Minister an offence has been committed, he may remit the report and the evidence to the Attorney General of the province concerned. The penalty section of the statute provides that any person who is a party or privy to or knowingly assists in the formation or operation of a combine is guilty of an indictable offence and liable to a penalty not exceeding \$10,000 or to two years' imprisonment, or if a corporation to a fine not exceeding \$25,000. Provision is also made in the Act for the reduction or

¹ R.S.C., 1927, c. 146, ss. 496-498.

² R.S.C., 1927, c. 44, s. 15.

³ R.S.C., 1927, c. 60, s. 27.

⁴ R.S.C., 1927, c. 150, s. 40.

removal of the customs duty on any article of commerce, among the manufacturers or dealers in which there exists a combine, the operation of which is facilitated by the tariff. Similarly, the Exchequer Court may revoke a patent if there is evidence to show that the holder of such patent has made use of his exclusive rights to limit production or competition unduly, to enhance prices unreasonably, or to restrain or injure trade.

The constitutional validity of the Combines Investigation Act was given final confirmation by the Judicial Committee of the Privy Council in a decision delivered in January, 1931. This judgment confirmed the unanimous decision of the Supreme Court of Canada, given in April, 1929, after a reference for determination of the question had been made to the courts by the Dominion Government. Both courts also upheld the constitutional validity of section 498 of the Criminal Code, relating to combinations in restraint of trade.

Combine Cases in 1931.—Prosecution proceedings in the case of the Amalgamated Builders' Council, a combine of plumbing and heating contractors and others in Ontario, were resumed in February, 1931, following the Privy Council judgment on the validity of the Combines Investigation Act. Three members who elected to be tried without a jury were found guilty on Mar. 23, at Windsor, by Mr. Justice Wright, who imposed fines of \$8,000 on one defendant and \$800 on each of the other two (*Rex v. Singer et al.*). Two others, the president and secretary-treasurer of the organization were acquitted in the same judgment. This latter decision was reversed by the Appellate Division of the Ontario Supreme Court in June, 1931, and a fine of \$4,000 was imposed on each (*Rex v. Belyea and Weinraub*). The Court of Appeal confirmed at the same time the judgment of Mr. Justice Wright in the three convictions. Appeals of the president and secretary-treasurer of the A.B.C. against their convictions were heard in the Supreme Court of Canada and were dismissed under a judgment delivered Feb. 2, 1932. Eleven other members of the combine were found guilty by a jury at Windsor on April 19, 1931, and were fined \$100 each by Mr. Justice Sedgewick (*Rex v. White et al.*). An action for damages for slander was entered in 1930 by counsel for the Amalgamated Builders' Council against the Commissioner who made the investigation into the plumbing combine. Judgment in this case (*O'Connor v. Waldron*), was delivered in May, 1930, by Mr. Justice Orde, who dismissed the action on the ground that proceedings before a commissioner appointed under the Combines Investigation Act are absolutely privileged, and that commissioner, counsel, witnesses and parties are entitled to the same protection as in a court of law. This judgment was upheld by the Appellate Division of the Supreme Court of Ontario in June, 1931, and by the Supreme Court of Canada in December, 1931.

Action against the members of the Electrical Estimators' Association, an alleged combine of electrical contractors in the city of Toronto, was commenced by the Attorney General of Ontario in June, 1931, following a reference from the Minister of Labour of the report of the Commissioner and the evidence taken during the investigation held in 1930. The chief method employed by the Association, as disclosed by the inquiry, required each member, before tendering on a job, to submit his costs to the Association Secretary, who averaged them and "awarded" the contract to the member whose costs were nearest the average. This contract then added an agreed percentage to cover overhead and net profit, and announced his tender price to the other members who submitted their tenders at figures higher than his. The case was tried in November, 1931, before Mr. Justice Raney, with

a jury. In a judgment delivered Jan. 12, 1932, (*Rex v. Harry Alexander, Limited, et al.*) Mr. Justice Raney found each of the defendants guilty of conspiracy or agreement to enhance prices and prevent or lessen competition unduly or unreasonably and against the public interest, contrary to the Combines Investigation Act and Section 498 of the Criminal Code. Fines totalling \$26,200 were imposed; \$2,500 on each of the seven corporations, \$1,000 on each of the eight individual contractors and \$100 on each of the seven representatives of the corporations involved.

Investigation of an alleged combine in the motion picture industry in Canada was completed in June, 1931, by Mr. Peter White, K.C., who was appointed Commissioner on Sept. 23, 1930. A finding of a combine against the public interest was made by the Commissioner. The alleged combine was found to have employed various improper methods in securing control of theatres throughout Canada and in influencing the operations of film distributors, independent theatre owners and others. The case was referred by the Minister of Labour to the Attorney General of Ontario, who instituted proceedings at the criminal assizes in Toronto in October, 1931. A true bill was returned by the grand jury and the case was adjourned to the winter assizes to be opened in January, 1932.

An alleged combine in the bread-baking industry in Canada was the subject of an investigation completed by the Registrar in February, 1931. No contravention of the Statute was reported, but attention was called to the control of Canadian bakeries secured by four of the largest flour-milling companies and to the consequent possibilities of monopoly and price enhancement, possibilities which should "warrant continued governmental interest in the situation, and, should the need arise, further governmental action on behalf of the consuming public".

The annual report of the Registrar of the Combines Investigation Act, dealing at greater length with the above subjects and referring also to other inquiries, is published as a section of the Annual Report of the Department of Labour.

PART II.—WAGES AND COST OF LIVING.

Section 1.—Wage Rates.¹

Statistics of rates of wages and hours of labour have been collected for recent years by the Dominion Department of Labour, and are published in a series of bulletins supplementary to the *Labour Gazette*. Report No. 1 of this series was issued in March, 1921. The records upon which the statistics are based begin in most cases with the year 1901. Index numbers have been calculated to show the general movement of wage rates; the series covers 21 classes of labour back to 1901, 4 classes of coal miners back to 1900, and common factory labour, miscellaneous factory trades and lumbering back to 1911. The index numbers are based upon wage rates in 1913 as 100.

The accompanying table of index numbers (Table 1) shows the relative changes from year to year. A downward movement appeared in most of the groups in 1921 and 1922, after the peak had been reached in 1920. The index numbers for 1923 and 1924 showed on the whole a slightly upward trend, but while there were slight increases during 1925 in some groups, a substantial decline in coal miners' wages reduced the average. In 1926 slight increases took place in the wages paid by the

¹ See pp. 774-783 of the 1927-28 Year Book for an article on the "Wages Statistics of the Census of 1921".

building, metal and printing trades, electric railways and steam railways. In 1927 general increases took place in all the six groups included in the average, as well as in the other three groups; wage increases in the building trades and on the steam railways were the outstanding features of the year. In 1928, except steam railways which was stationary and common factory labour which declined fractionally, all groups showed an upward movement, a substantial increase appearing in building trades. In 1929 all groups except coal mining were higher, the building trades showing the greatest increase. In 1930 building trades showed a substantial increase, lumbering a decrease and other groups fractional increases. In 1931 all groups were down except printing which showed a slight advance and coal mining which was unchanged.

Rates of wages and hours of labour in 1931, in various trades in the largest cities of the five economic areas of Canada, will be found in Table 2. The attention of those specially interested in the subject of wages and hours is directed to the valuable detailed study, "Wages and Hours of Labour in Canada, 1926, 1930 and 1931", published by the Department of Labour as a supplement to the *Labour Gazette*, January, 1932.

1.—Index Numbers of Rates of Wages for Various Classes of Labour in Canada, 1901-31.

(Rates of Wages in 1913=100.)

Year.	Average. ¹	Building Trades.	Metal Trades.	Printing Trades.	Electric Railways.	Steam Railways.	Coal Mining.	Common Factory Labour.	Miscellaneous Factory Trades.	Logging and Saw-milling.
1901.....	67.4	60.3	68.6	60.0	64.0	68.8	82.8	—	—	—
1902.....	70.0	64.2	70.2	61.6	68.0	72.0	83.8	—	—	—
1903.....	72.5	67.4	73.3	62.6	71.1	75.1	85.3	—	—	—
1904.....	74.5	69.7	75.9	66.1	73.1	76.9	85.1	—	—	—
1905.....	75.7	73.0	78.6	68.5	73.5	74.5	86.3	—	—	—
1906.....	78.6	76.9	79.8	72.2	75.7	79.3	87.4	—	—	—
1907.....	82.8	80.2	82.4	78.4	81.4	81.0	93.6	—	—	—
1908.....	81.9	81.5	84.7	80.5	81.8	86.1	94.8	—	—	—
1909.....	85.9	83.1	86.2	83.4	81.1	86.3	95.1	—	—	—
1910.....	88.9	86.9	88.8	87.8	85.7	90.1	94.2	—	—	—
1911.....	92.3	90.2	91.0	91.6	88.1	95.7	97.5	94.9	95.4	96.0
1912.....	96.0	96.0	95.3	96.0	92.3	97.9	98.3	98.1	97.1	98.0
1913.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1914.....	101.3	100.8	100.5	102.4	101.0	101.4	101.9	101.0	103.2	94.0
1915.....	101.4	101.5	101.5	103.6	97.8	101.7	102.3	101.0	106.2	89.0
1916.....	105.8	102.4	106.9	105.8	102.2	105.9	111.7	110.4	115.1	109.0
1917.....	119.9	109.9	128.0	111.3	114.6	124.6	130.8	129.2	128.0	130.0
1918.....	143.6	125.9	155.2	123.7	142.9	158.0	157.8	152.3	146.8	156.0
1919.....	165.3	148.2	180.1	145.9	163.3	183.9	170.5	180.2	180.2	169.0
1920.....	197.8	180.9	209.4	184.0	194.2	221.0	197.7	215.3	216.8	207.0
1921.....	191.2	170.5	186.8	193.3	192.1	195.9	208.3	190.6	202.0	157.0
1922.....	182.4	162.5	173.7	192.3	184.4	184.4	197.8	183.0	189.1	156.0
1923.....	183.3	166.4	174.0	188.9	186.2	186.4	197.8	181.7	196.1	176.0
1924.....	183.7	169.7	175.5	191.9	186.4	186.4	192.4	183.2	197.6	183.0
1925.....	179.7	170.4	175.4	192.8	187.8	186.4	167.6	186.3	195.5	177.0
1926.....	180.5	172.1	177.4	193.3	188.4	186.4	167.4	187.3	196.7	187.0
1927.....	184.3	179.3	178.1	195.0	189.9	193.4	167.9	187.7	199.4	187.0
1928.....	187.6	185.6	180.1	198.3	194.1	198.4	168.9	187.1	200.9	187.0
1929.....	192.7	197.5	184.6	202.3	198.6	204.3	168.9	187.8	202.1	187.0
1930.....	194.4	203.2	186.6	203.3	199.4	204.3	169.4	188.2	202.3	187.0
1931.....	191.8	195.7	182.9	205.1	198.6	199.2	169.4	183.4	197.3	167.0

¹ Simple average of the six succeeding columns.

2.—Rates of Wages and Hours of Labour in Various Trades,¹ and of Unskilled Factory Labour in Certain Cities of Canada, 1931.

NOTE.—Corresponding figures for 1920-26 will be found at pp. 720-1 of the 1926 Year Book and for later years in subsequent issues.

Occupation.	Halifax.		Montreal.		Toronto.		Winnipeg.		Vancouver.	
	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.	Wages per hour.	Hours per week.
1. Building Trades—	\$		\$		\$		\$		\$	
Bricklayers....	1.15	44	1.00-1.20	44	1.10	44	1.35	44	1.35	40
Carpenters....	.73	44	.65-.85	44-55	1.10	44	1.00	44	1.00	44
Electrical workers.....	1.00	44	.75-.90	44-46½	1.25	44	1.00	44	1.00-1.17½	40-44
Painters.....	.73	44	.65-.85	44-49½	.75-.85	44	.85	44	.80	40-44
Plasterers.....	1.00	44	.85-1.05	44-49½	1.12½	40	1.45	44	1.28½	40
Plumbers.....	1.00	44	.90	44	1.25	40	1.15	44	1.12½	40
Sheet metal workers.....	.85	44	.80	44	1.07½	44	.85	44	1.06½	40-44
Stonecutters.....	.90	44	.75-1.00	44	1.25	44	1.15	44	1.25	40
Labourers.....	.30-.40	48-54	.30-.40	44-60	.40-.60	44-60	.40-.50	44-60	.50-.56½	40-44
2. Electric										
Railways—										
Conductors and motormen²...	.61	60	.55	70	.60	48	.60	42	.63	48
Linemen.....	.63-.77	44	.55	48	.72-.78	40-48	.92½	44	.97	44
Shedmen.....	.57-.77	44	.34-.57	59-67	.54-.56	42	.51½-.59	42	.52	44-48
Electricians.....	.63-.77	44	.55-.61	45	.55-.65	37½	.62	42	.70	44
Trackmen and labourers.....	.40-.50	44	.35	48	.45-.59	40	.35-.45	44	.45½-.59	44
3. Printing Trades—										
Compositors, machine and hand, news..	Wages per week.		Wages per week.		Wages per week.		Wages per week.		Wages per week.	
Compositors, machine and hand, job....	31.00-35.00	44	36.00-42.00	44-48	35.00-42.00	44-48	39.60	44-48	45.00	44-48
Pressmen, news	34.00	48	35.00-40.00	48	46.50	48	46.00	48	48.00	48
Pressmen, job..	30.00	44-48	36.00-40.00	48	36.00-42.00	44-48	39.60	44-48	45.00	44-48
Bookbinders....	30.00-40.00	44-48	33.75	48	36.00-40.00	44-48	35.00-40.00	44-48	45.00	44-48
Bindery girls..	10.00	44-48	15.00	48	16.80-18.00	48	12.00-18.00	44-48	22.50	44
4. Unskilled Factory Labour.	Wages per hour		Wages per hour		Wages per hour		Wages per hour		Wages per hour	
	.30-.34	48-55	.30-.35	47-60	.40	42½-56	.30-.45	44-50	.35-.51	44-50

¹ For statistics of the wages and hours of employees of steam railways and wages of employees in and about coal mines in Canada, see pp. 751-2 of the 1930 Year Book where the rates, etc., for the past seven or eight years, to 1929, are given. Except for slight changes in Nova Scotia in coal mines in 1930, these rates were unchanged down to December, 1931. In previous editions of the Year Book a table showing the wages and hours of common labour in factories for certain cities has also been given here. This has been omitted this year to conserve space, but the information can be found at p. 34 of "Wages and Hours of Labour in Canada," published as a supplement to the *Labour Gazette* for Jan., 1932. For the five cities of Table 2 it is included under sub-heading 4 of the stub.

² Final maximum rate after annual increase.

Section 2.—Wages and Hours of Labour Under Minimum Wage Boards in Canada.

Seven of the provinces of Canada have enacted legislation providing for minimum rates of wages for female employees in certain industries, and also have certain restrictions of hours. In British Columbia similar legislation applies to males, both as to wages and hours. In Alberta the legislation applies to males in certain respects. Such legislation was first enacted in these provinces as follows: British Columbia and Manitoba in 1918; Saskatchewan and Quebec in 1919; Alberta, Nova Scotia and Ontario in 1920. The British Columbia legislation as to wages for adult males was enacted in 1925 but that as to hours in 1923. In each province these Statutes became effective through orders issued and administered by Boards.

Subsection 1.—Minimum Wages for Females.

The accompanying table gives summary figures as to the minimum rates of wages in force under these Boards during 1931. Orders and amendments issued from time to time have appeared in summary form in the *Labour Gazette*. In some provinces these orders include regulations as to employment conditions, terms of employment, sanitary conditions, etc., and all provide for variation under licence from the Boards to permit lower rates of pay for handicapped employees, etc., and to meet special conditions in the nature of emergencies.

In this table the figures for adult learners and for minors and apprentices are shown in a range covering both classes. There is considerable variation in the rates for such classes in the various industries and the time allowed for such periods.

3.—Minimum Wages and Maximum Hours of Labour for Females

Industry or Occupation.	Alberta.				British Columbia (k).				Manitoba (a).			
	Wages per Week.		Hours—		Wages per Week.		Hours—		Wages per Week.		Hours—	
	Adults, Experienced.	Minors, Learners, etc.	per day	per wk.	Adults, Experienced.	Minors, Learners, etc.	per day	per wk.	Adults, Experienced.	Minors, Learners, etc.	per day	per wk.
Factories.....	\$ 12-50	\$ 6-00-10-00	9	48	\$ 14-00	\$ 7-00-12-00	8	48	\$ 11-00-12-00	\$ 8-00-11-00	9	48
Dressmaking.....	12-50	(g)6-00-10-00	9	48	14-00	7-00-13-00	8	48	(h)12-00	(g)6-00-11-00	(m)	8½
Millinery.....	12-50	(g)4-00-10-00	9	48	14-00	7-00-13-00	8	48	12-00	(u)5-00-10-00	(m)	8½
Tailoring.....	12-50	(g)6-00-10-00	9	48	14-00	7-00-13-00	8	48	12-00	6-00-11-00	9	5
Fur-sewing.....	12-50	(g)6-00-10-00	9	48	14-00	7-00-13-00	8	48	(h)12-00	8-00-10-50	9	4
Fruit and vegetable canning, etc.....	12-50	9-00-10-00	9	48	14-40	11-00	10	48	-	-	-	-
Printing, etc.....	12-50	7-00-11-00	9	48	14-00	7-00-13-00	8	48	12-00	8-00-11-00	9	4
Laundries, etc.....	12-50	9-50-11-50	9	48	13-50	8-00-12-00	-	48	(h)12-00	9-00-10-50	9	5
Retail stores.....	12-50	7-50-11-00	(m)	52	12-75	7-50-12-00	-	48	12-00	7-00-11-00	(m)	4
Hotels, restaurants, etc.	†14-00-16-50	†10-00-14-00	9	48-56	14-00	12-00	-	48	12-50	-	10	4
Theatres, amusement places, etc.....	(p)14-00	-	9	48	(p)14-25	-	-	48	(h)12-00	-	9	4
Personal service, hair-dressing, etc.....	(p)14-00	(g)6-00-12-00	9	48	(p)14-25	10-00-13-00	-	48	12-00	(g)8-00-11-00	(m)	10
Offices and clerical work	14-00	(g)7-50-12-00	9	48	15-00	11-00-14-00	-	48	(h)12-50	8-00-11-50	8	-
Telephone and telegraph	(z)14-00	(g)7-50-12-00	9	48	15-00	11-00-13-00	8	48	-	-	-	-
Elevator operators.....	-	-	-	-	-	-	-	-	-	-	-	-

*Cities and towns only.

†Applicable to certain cities and towns only.

(a) In Manitoba, in brickyards and in seasonal and casual employment in industries not otherwise covered, a minimum wage of \$12 per week or 30 cents per hour is established.

(b) For Ontario the ranges of rates shown for experienced adults cover the various rates set for localities according to population.

(c) Seasonal canneries included under separate order; 18 to 60 years of age, 18 to 25 cents per hour; other ages 15 to 20 cents.

(d) The Factory Act provides for maximum hours for female employees, 10 per day and 60 per week.

(e) Textile and knitting factories: \$10.00-\$12.00 for experienced adults, \$6.00-\$10.00 for minors and learners; boot and shoe and leather trades: \$8.00-\$12.50 for experienced adults, \$5.00-\$11.00 for minors and learners; various classes of clothing and tobacco factories: \$9.00-\$12.50 for experienced adults, \$6.00-\$11.00 for minors and learners. These rates to be paid for 44-55 hours per week in clothing factories and for 50 hours in tobacco factories, *pro rata* for additional hours.

(f) The Factory Act provides for maximum hours, for female employees, 10 per day and 55 per week.

(g) Probationary period without minimum rate.

(h) Winnipeg and vicinity only, under order.

(i) In mail order houses and in retail stores in certain cities and towns.

(k) In the fishing industry a minimum rate of \$15.50 per week (48 hours) or 32¼ cts. per hour is set for experienced workers (12 months); \$12.75 to \$14.75 under one year.

varies considerably, from a few weeks to two years and upwards. The number of earners and apprentices is usually restricted to twenty-five per cent of the employees.

The hours of labour shown in the table are those for which the minimum rates are payable, or the maximum hours of work (except under special conditions, provision for overtime pay, etc.) established by the minimum wage boards or provided for under other legislation, particulars in some instances being given in the footnotes.

The information here given is intended to afford merely a statistical summary of the minimum wages and restricted hours of labour in the provinces and industries affected and, while some of the more significant details have been given in footnotes, it has been found impossible to include the information in such form as to indicate any more than the general conditions under these provisions.

Employees Under Orders of Minimum Wage Boards in Canada, 1931.

Nova Scotia.*				Ontario (b).				Quebec.				Saskatchewan.†			
Wages per Wk.		Hours—		Wages per Week.		Hours—		Wages per Week.		Hours—		Wages per Week.		Hours—	
Adults, Experienced.	Minors, Learners, etc.	per day	per wk	Adults, Experienced.	Minors, Learners, etc.	per day	per wk.	Adults, Experienced.	Minors, Learners, etc.	per day	per wk.	Adults, Experienced.	Minors, Learners, etc.	per day	per wk.
\$	\$			\$	\$			\$	\$			\$	\$		
0-00	6-00	-	(1)	(c)10-00	6-00	-	(d)	(e)8-00	(e)5-00	-	(f)	\$ 14-00	7-50-	-	48
11-00	10-00			12-50	10-00			12-50	11-00				11-50		
0-00	6-00	-	(1)	(v)	-	-	-	9-00-	6-00-	-	44-	(j) 15-00	(g)3-00	-	49-
11-00	10-00							12-50	11-00		55		12-00		51
0-00	6-00	-	(1)	(r)10-00	(r) 6-00-	-	-	-	-	-	-	(j) 15-00	(g)3-00-	-	49-
11-00	10-00			12-50	10-00								12-00		51
0-00	6-00	-	(1)	(s)10-00	(g)6-00-	-	-	9-00-	6-00-	-	44-	(j) 15-00	(g)3-00-	-	49-
11-00	10-00			12-50	(s)10-00			12-50	11-00		55		12-00		51
0-00	6-00	-	(1)	(v)	-	-	-	10-00-	6-00-	-	44-	-	-	-	-
11-00	10-00							12-50	11-00		55	-	-	-	-
0-00	6-00	-	(1)	(e)10-00	8-00-	-	(d)	-	-	-	-	-	-	-	-
11-00	10-00			12-50	10-00										
0-00	6-00	-	(1)	10-00-	6-00-	-	(d)	9-00-	6-00-	-	(f)	14-00	7-50-	-	48
11-00	10-00			12-50	10-00			12-50	11-00				11-50		
0-00	6-00	-	(1)	11-00-	7-00-	-	(l)	9-00-	8-00-	-	-	14-00	9-50-	-	48
11-00	10-00			12-00	11-00			12-00	10-50				11-50		
-	-	-	-	8-00-	6-00-	-	(l)	-	-	-	-	(j) 15-00	7-00-	-	49-
0-00	8-00-	-	(1)	10-00-	-	-	(n)	8	-	-	-	(o)13-00	11-00-	-	50-
11-00	10-00			12-50	-		(q)	-	-	-	-	14-00	12-00		56
-	-	-	-	11-00-	-	-		-	-	-	-	-	-	-	-
-	-	-	-	12-50	-	-		-	-	-	-	-	-	-	-
-	-	-	-	(s)12-00	8-00-	-	-	-	-	-	-	15-00	10-00-	10	50
-	-	-	-	12-50	(s)10-00			-	-	-	-		12-00		
-	-	-	-	(w)8-00	(w)6-00-	-	-	-	-	-	-	-	-	-	-
9-00-	(y)6-00-	-	(l)	12-50	11-00			-	-	-	-	-	-	-	-
11-00	10-00			(t)7-00-	5-00-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	12-50	11-00			-	-	-	-	-	-	-	-
-	-	-	-	8-00-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	12-50	-	-	-	-	-	-	-	-	-	-	-

- (l) Rate applies to work between 44 and 50 hours per week, hours in excess of 50 to be paid at not less than a rate based on 50 hours per week; hours under 44 at a rate based on normal hours in establishment.
- (m) Longer working time permitted on Saturdays, etc., and sometimes in certain months.
- (n) Full minimum rate for 36 hours or longer up to 50 hours; for time under 36 hours and over 50 hours, to 25 cents per hour, according to population; order applies only to localities of 4,000 and up.
- (o) Kitchen help \$11 per week of six days or \$12 per week of seven days; 35 cents per hour.
- (p) Including garages, gasoline, service stations, shooting galleries, elevator service, etc.; in British Columbia, driving vehicles, ushers, cloak-room attendants, etc., special provision for broken and part time.
- (q) Full minimum rate for 40 hours or more worked; 25 to 30 cents per hour for work less than 40 hours.
- (r) Custom millinery in localities of 4,000 population and up.
- (s) Cities of 30,000 and up.
- (t) Telephone only in localities of 4,000 and up and those having 200 or more telephone subscribers.
- (u) Probationary period in departmental stores with minimum of \$6 thereafter.
- (v) In establishments classified as factories, covered by factory orders
- (w) Applies also to wholesale houses and warehouses.
- (y) Telephone only.
- (z) For telephone work, applies to localities of 600 and over.

Subsection 2.—Minimum Wages for Male Employees.

In Alberta, legislation of 1926, a revision of the Factories Act, provides that in establishments governed by the Act, which include shops, hotels, restaurants, and office buildings, no male may be employed at a less wage than the minimum rate for female employees in the same class of work except in the case of apprentices under indenture approved by the Commissioner of Labour, who is the Secretary of the Minimum Wage Board.

In British Columbia the orders issued under the Male Minimum Wage Act, 1925, having been declared invalid in October, 1928, by the Supreme Court of Canada (*Labour Gazette*, November, 1928, p. 1310), a new Act was enacted in the session of 1929, like the original applying to all occupations other than those of farm labourers, fruit pickers, fruit packers, fruit and vegetable canners and domestic servants.

On Jan. 22, 1930, an order effective from that date was issued providing for a minimum rate of 50 cents per hour for "stationary steam engineers" and 40 cents per hour for "special engineers" as defined under the "Boiler Inspection Act". On July 31, 1930, an order was issued effective from that date providing for a minimum rate of 80 cents per hour for licentiates in pharmacy, engaged in selling, dispensing, etc., of drugs, etc. An amendment to the Statute during 1931 excluded from its operation the professions the members of which are incorporated under provincial legislation. The above order, therefore, became null and void.

In Manitoba during 1931 an amendment to the Minimum Wage Act made all orders applicable to boys under eighteen years of age. The order regarding employment in retail stores was then amended to permit boys to work fifty hours per week instead of forty-eight hours, the maximum for female employees.

Section 3.—Cost of Living of Wage Earners.

An index number of the cost of living in working men's families has been computed by the Department of Labour since 1913, and is published monthly in the *Labour Gazette*. This index is specifically designed for the purpose of measuring the trends of the cost of living for certain wage-earning classes with a somewhat lower standard of living than that which is measured by the Bureau of Statistics index number of retail prices, shown on pp. 689-693 of the present volume. The former wage-earner's index is used extensively in negotiations as to wage rates and in the settlement of industrial disputes. An abridgment of this index is presented in Table 4.

4.—Changes in the Cost of Living in Canada from 1914 to 1931.¹

(Average prices in 1913=100.)

Month and Year.	Food.	Fuel and Light.	Rent.	Cloth- ing.	Sund- ries.	All Items.
Dec. 1914.....	108	98	97	103	100	103
Dec. 1915.....	111	96	94	115	110	107
Dec. 1916.....	138	109	95	136	122	124
Dec. 1917.....	167	125	102	158	134	143
Dec. 1918.....	186	146	111	185	151	162
Dec. 1919.....	201	148	122	210	164	176
Dec. 1920.....	202	200	142	232	173	190
Dec. 1921.....	150	172	150	177	173	161
Dec. 1922.....	142	177	155	162	174	157
Dec. 1923.....	146	172	153	164	171	159
Dec. 1924.....	144	162	158	159	169	156
Dec. 1925.....	157	166	158	159	166	160
Dec. 1926.....	152	162	156	157	166	157
Dec. 1927.....	152	158	156	155	166	157
Dec. 1928.....	154	157	157	157	166	158
Dec. 1929.....	161	157	158	156	166	160
Mar. 1930.....	159	157	158	155	166	159
June 1930.....	151	156	160	155	166	157
Sept. 1930.....	141	156	160	148	165	152
Dec. 1930.....	138	156	160	148	165	151
Jan. 1931.....	134	156	160	148	165	150
Feb. 1931.....	129	156	160	142	164	146
Mar. 1931.....	124	156	160	141	164	145
April 1931.....	121	155	160	137	164	142
May 1931.....	116	154	158	137	164	140
June 1931.....	111	153	158	137	164	138
July 1931.....	110	154	158	131	163	137
Aug. 1931.....	112	153	158	131	163	138
Sept. 1931.....	109	151	158	127	163	136
Oct. 1931.....	107	152	158	127	163	135
Nov. 1931.....	107	152	158	127	163	135
Dec. 1931.....	107	152	158	127	163	135

¹The figures for "all items" were calculated by giving the following weights to each group: Food 35 p.c.; Fuel 8 p.c.; Rent 18½ p.c.; Clothing 18½ p.c. and Sundries 20 p.c.

CHAPTER XX.—PRICES.¹

Commodity prices naturally fall into two main divisions—wholesale prices and retail prices. Because the number of wholesale traders is smaller than that of retail traders, buying and selling by carefully defined grades more prevalent, and price ranges at any particular time and place much narrower, it would appear that wholesale prices and their fluctuations are more easily and accurately ascertainable than retail prices. But this advantage is largely offset by certain difficulties inherent in the nature of index numbers of wholesale prices. The making of an index number of wholesale prices for general purposes requires the inclusion of a much wider range of commodities than is necessary for a retail or cost of living index. Moreover, wholesale commodities are in all stages from raw material to finished product, while retail prices are concerned only with the latter. At each stage in the evolution of a commodity we are frequently confronted with several grades, and this situation is complicated by the fact that grades undergo changes in the course of time. Hence, to secure from month to month and year to year quotations which give accurate continuity is a task in which eternal vigilance is the price of success. The maker of wholesale index numbers must be assiduous in acquiring and keeping up to date a knowledge of grades and qualities, and in dealing with a very large list of commodities this is a difficult task. With retail prices, the question of grades is not quite so involved and in some cases it is sufficient to obtain quotations on the basis of "the kind principally sold".

Wholesale transactions are generally between expert buyers and sellers, dealing on purely business principles. Accordingly, wholesale prices conform approximately to the operation of the principle of supply and demand, and are thus more valuable as an index to the current state of business. Retail prices, on the other hand, are governed to some extent by custom and do not respond easily to fluctuations in wholesale prices. Indeed, small fluctuations in wholesale prices are not fairly reflected in retail prices because of the limitations of the currency in representing small quantities of commodities. Retail prices vary considerably for the same commodity in different parts of the same city, owing to differences in the service rendered, in location of stores and in classes of customers.

Further, since wholesale prices are determined by the business situation of the moment while retail prices change more slowly, there exists what is technically called a "lag" between the two, retail prices not showing changes in fundamental business conditions until some time after wholesale prices. Thus, while wholesale prices in Canada reached the peak in May, 1920, and commenced to decline in June, retail prices reached the peak in July, 1920, and began to decline in August. A similar "lag" has been noted in recent years.

Retail prices find one of their chief uses in the measurement of changes in the cost of living. This measurement is complicated by such changing factors as consumption, habits and standards of living, and qualitative changes in commodities included in the budget, particularly clothing. The difficulty of maintaining comparability between one period and another necessitates very thorough research and an elaborate collection of retail price data.

¹Revised by Herbert Marshall, B.A., F.S.S., Chief, Internal Trade Branch, Dominion Bureau of Statistics. This Branch compiles and publishes statistics on: Prices (wholesale, retail, securities, services, interest rates, cost of living), Retail and Wholesale Trade, Foreign Capital Investment in Canada and Canadian Investment Abroad, Balance of International Payments, and other related activities. For a complete list of the publications of this Branch, the reader is referred to Chapter XXIX, Section I, under "Internal Trade".

Subsection 1.—Historical Review of Canadian Prices.

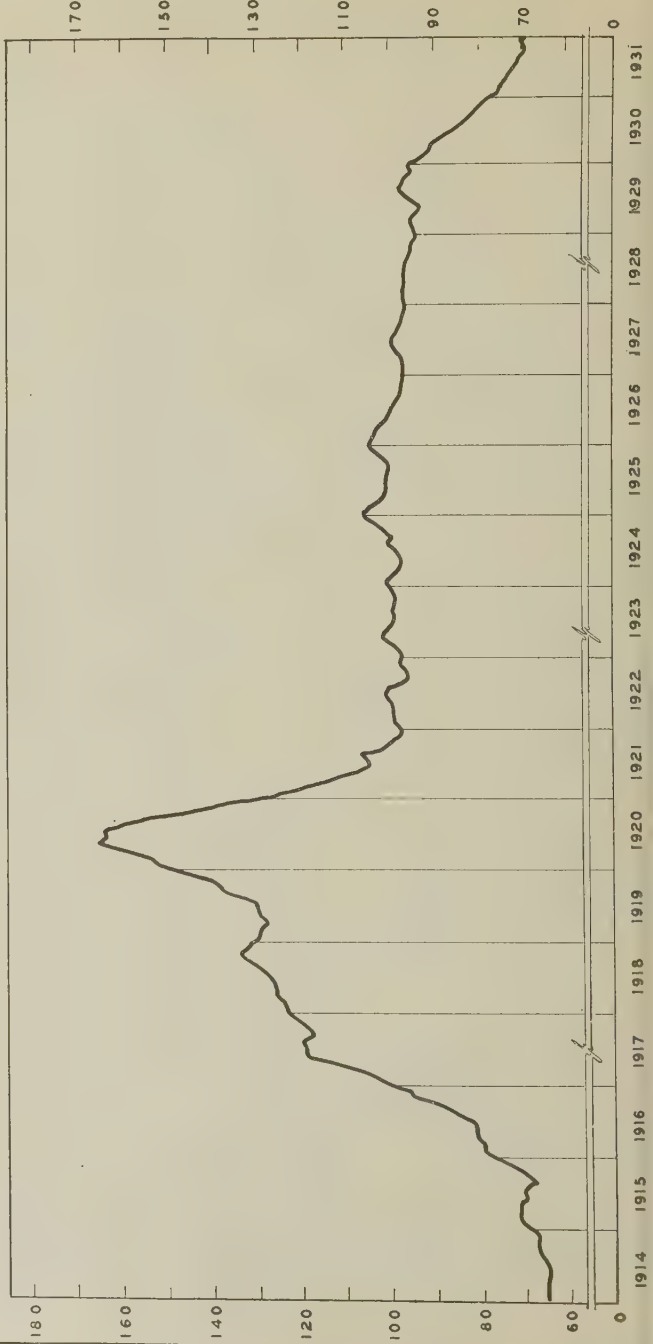
(1913=100.)

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THE COURSE OF WHOLESALE PRICES IN CANADA

1914 - 1931

AVERAGE PRICES, 1926=100



Subsection 2.—The Index Number on a Post-War Base (1926).

The official Canadian index number of wholesale prices and other price indexes computed by the Dominion Bureau of Statistics was revised, when prices were considered as having arrived at a condition of post-war normalcy, and calculated with the year 1926 as base.

Details of the method of constructing the new index number—the price series included, the weighting and the classification of commodities—were given at pp. 103-5 of the 1931 Year Book. On this base, the Dominion Bureau of Statistics' annual index number of wholesale price movements for 1931 was 72.2 which is to be compared with 86.6 for 1930. This comparison, however, gives an exaggerated idea of the decline that occurred during the past year, for the monthly index series in 1931 fell only from 75.9 in January to 70.6 in December, while in 1930 it dropped from 95.3 to 77.7 between January and December. It is worthy of note also that the general index of wholesale prices advanced by small amounts in October and November, marking the first break in the recession since December, 1929. Wholesale price levels measured by commodity group indexes declined generally during 1931, the most outstanding drop being recorded by the animals and their products index which fell from 88.2 in January to 66.4 in December. Other group declines occurred as follows: vegetable products from 57.8 to 56.4, fibres, textiles and textile products from 75.0 to 71.8, wood, wood products and paper from 81.8 to 78.0, iron and its products from 88.7 to 87.3, non-ferrous metals and their products from 69.1 to 66.3, non-metallic minerals and their products from 89.3 to 87.5, and chemicals and allied products from 88.3 to 85.1.

The movement in raw and partly manufactured goods prices was roughly parallel to that for fully and chiefly manufactured goods. An index number based upon a series of 232 wholesale quotations for the former dropped from 66.4 in January to 60.2 for December, while a corresponding series based on 276 fully or chiefly manufactured items, fell from 79.0 to 72.9. This was in contrast to the decline in 1930, when the raw and partly manufactured index fell over 30 points and the fully and chiefly manufactured index, slightly more than 11 points. Considering the total movement, raw material prices have apparently fallen at least twice as far as prices for processed and manufactured goods.

Canadian farm product prices as a group have been considerably steadier than in 1930. The wholesale price index for such items fell from 60.9 to 53.8 during 1931, which compared with a drop from 102.7 to 61.8 in 1930. It was strength received chiefly from prices in this group which was responsible for advances in the general wholesale index during October and November.

2.—Weighted General Wholesale Price Index Numbers, by Months, 1923-31.

(1926=100.)

Month.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
January.....	97.0	100.4	106.0	103.0	97.8	96.9	94.0	95.3	75.9
February.....	97.1	100.4	105.4	102.1	97.6	96.8	95.0	93.9	75.5
March.....	98.3	98.8	103.5	101.3	97.3	97.7	95.6	91.8	74.5
April.....	102.4	96.7	100.2	101.2	97.3	98.3	94.5	91.2	73.9
May.....	100.4	96.4	101.7	100.2	98.3	97.9	93.4	89.7	72.6
June.....	99.6	97.5	101.5	100.1	98.7	96.9	93.4	87.7	71.9
July.....	98.3	98.5	101.2	100.1	98.5	96.0	97.2	85.3	71.4
August.....	98.3	100.4	101.7	99.1	98.3	95.3	98.4	83.7	70.6
September.....	99.0	98.5	100.0	98.5	97.1	95.4	97.8	82.1	69.8
October.....	98.0	100.5	99.9	98.1	97.2	95.2	96.8	81.0	70.0
November.....	98.1	101.0	103.2	97.7	96.9	94.9	95.7	79.5	70.9
December.....	98.3	103.0	104.7	97.9	97.2	94.6	96.0	77.7	70.6
Yearly Averages....	98.0	99.4	102.6	100.0	97.7	96.1	95.8	86.6	72.2

3.—Annual Weighted Index Numbers of Wholesale Prices of Commodities, by Groups (Chief Component Material Classification), 1913-31, with Monthly Figures for 1929-31.

NOTE.—The monthly and annual figures for 1927 and 1928 have been revised, particularly as regards the groups of Animals and their Products and Non-Ferrous Metals and their Products. These revisions also affect slightly the "All Commodities" column.
(1926=100.)

Year and Month.	Groups.								
	Vegetable Products.	Animals and Their Products.	Fibres, Textiles and Textile Products.	Wood, Wood Products and Paper.	Iron and Its Products.	Non-Ferrous Metals and Their Products.	Non-Metallic Minerals and Their Products.	Chemicals and Allied Products.	All Commodities.
	Numbers of Commodities Selected.								
1913-25.....	67	50	28	21	26	15	16	13	238
1926-31.....	124	74	63	44	39	15	73	73	502
1913.....	58.1	70.9	58.2	63.9	68.9	98.4	56.8	63.4	64.0
1914.....	64.8	72.6	56.9	60.3	67.3	94.7	53.7	65.3	65.5
1915.....	75.6	74.0	58.3	56.5	73.9	106.9	52.7	68.1	70.4
1916.....	87.0	85.0	77.6	64.0	104.6	135.1	58.0	78.0	84.3
1917.....	124.5	110.4	114.6	79.8	151.8	143.9	71.6	98.1	114.3
1918.....	127.9	127.1	157.1	89.1	156.7	141.9	82.3	118.7	127.4
1919.....	136.1	140.8	163.8	109.6	139.1	133.5	93.0	117.5	133.9
1920.....	167.0	145.1	176.6	154.4	168.4	135.5	112.2	141.5	155.9
1921.....	103.5	109.6	96.0	129.4	128.0	97.0	116.6	117.0	110.0
1922.....	86.2	96.0	101.7	106.3	104.6	97.3	107.0	105.4	97.3
1923.....	83.7	95.0	116.9	113.0	115.8	95.3	104.4	104.4	98.0
1924.....	89.2	91.8	117.9	105.9	111.0	94.8	104.1	102.5	99.4
1925.....	100.6	100.3	112.5	101.6	104.5	103.9	100.3	99.6	102.6
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	98.3	101.9	93.7	98.5	96.2	91.5	96.5	98.3	97.7
1928.....	93.0	108.1	94.5	98.7	93.2	92.0	92.5	95.3	96.4
1929.....	91.6	109.0	91.3	93.9	93.7	99.2	92.9	95.4	95.6
1930.....	77.7	99.1	81.8	88.7	91.1	80.7	91.3	92.8	86.8
1931.....	56.9	73.9	73.4	79.8	87.4	64.6	86.5	86.5	72.2
1929.									
January.....	87.1	107.0	93.2	93.7	93.3	96.9	93.4	94.9	94.0
February.....	89.8	107.8	93.2	94.0	93.3	99.7	92.6	94.9	95.0
March.....	88.5	110.0	92.8	94.9	93.5	107.1	92.7	95.0	95.6
April.....	86.5	108.9	92.4	94.6	93.8	103.5	91.9	95.4	94.5
May.....	84.0	108.4	91.8	94.1	94.4	99.2	92.3	95.5	93.4
June.....	84.8	107.7	91.6	94.0	93.8	98.7	93.0	95.6	93.4
July.....	96.9	108.5	91.5	93.9	93.8	98.5	93.4	95.8	97.2
August.....	100.1	109.9	91.1	94.0	93.8	98.5	93.6	95.3	98.4
September.....	98.9	108.9	91.2	93.7	93.8	98.2	93.2	95.5	97.8
October.....	96.3	109.9	90.4	93.0	93.5	97.5	92.3	95.4	96.8
November.....	93.5	108.4	89.8	93.1	93.4	96.7	92.8	95.1	95.7
December.....	93.9	109.8	89.6	93.2	93.4	96.5	93.4	95.1	96.0
1930.									
January.....	92.0	109.9	88.6	93.3	92.9	95.5	93.4	94.6	95.8
February.....	88.7	109.5	87.3	92.7	92.7	94.8	93.3	94.3	93.9
March.....	84.9	106.1	85.8	91.8	92.5	93.1	93.3	94.1	91.8
April.....	86.3	104.2	83.4	91.2	92.4	86.8	93.0	94.0	91.2
May.....	85.3	102.6	83.0	89.7	91.4	80.6	90.8	93.5	89.7
June.....	83.0	97.0	82.1	89.1	91.2	77.8	90.5	93.0	87.7
July.....	78.5	93.5	80.8	87.6	90.8	75.8	90.4	92.8	85.3
August.....	75.1	92.1	79.9	86.6	90.7	74.4	90.5	92.2	83.7
September.....	69.8	93.4	79.2	86.2	90.4	73.7	90.8	92.0	82.1
October.....	66.7	95.3	77.5	85.6	90.0	70.5	90.9	91.3	81.6
November.....	62.6	93.4	77.5	85.8	89.3	73.5	89.4	90.9	79.5
December.....	59.3	90.5	76.9	85.2	89.0	71.6	89.4	90.3	77.7
1931.									
January.....	57.8	88.2	75.0	81.8	88.7	69.1	89.3	88.3	75.0
February.....	59.0	85.2	74.1	81.7	87.9	67.9	88.9	88.2	75.5
March.....	58.7	80.6	74.3	81.6	87.8	68.6	86.9	87.9	74.5
April.....	59.1	77.8	74.2	81.2	87.6	66.7	86.0	87.8	73.9
May.....	58.6	72.4	74.2	80.9	87.5	63.6	84.7	86.9	72.0
June.....	57.9	70.5	74.6	80.3	87.4	62.1	84.8	86.7	71.9
July.....	56.7	71.2	73.7	79.6	87.1	62.5	85.0	86.8	71.4
August.....	55.3	70.9	73.2	78.7	86.8	60.9	85.0	86.3	70.4
September.....	54.0	69.0	72.4	77.7	86.8	60.7	86.5	84.6	69.8
October.....	54.4	68.2	71.9	78.2	87.3	63.0	86.7	84.8	70.0
November.....	58.1	67.4	71.7	77.5	87.0	63.8	86.5	84.8	70.9
December.....	56.4	66.4	71.8	78.0	87.3	66.3	87.5	85.1	70.6

I.—Index Numbers of Wholesale Prices of Commodities, Classified According to Purpose, by Yearly Averages, 1914-31, and by Months, 1929-31.

(1926=100. Includes revised figures for 1929.)

Year and Month.	Consumers' Goods.			Producers' Goods.						All Com- modities.
	All.	Foods, Beverages and Tobacco.	Other.	All.	Pro- ducers' Equip- ment.	Producers' Materials.				
						All.	Building and Con- struction.	Manu- fact- urers'.		
Numbers of Price Series.										
1913-25.....	98	74	24	146	15	131	32	99	236	
926-31.....	204	116	88	351	22	329	97	232	502	
1914.....	62.7	65.2	59.7	69.7	52.0	72.1	62.9	74.3	65.5	
1915.....	65.6	68.6	61.8	77.0	53.1	80.2	60.5	84.8	70.4	
1916.....	74.7	81.7	65.8	88.1	55.7	92.5	69.6	97.9	84.3	
1917.....	95.4	109.4	77.6	119.6	69.6	126.3	87.6	135.5	114.3	
1918.....	107.0	119.4	91.4	131.5	80.4	138.3	100.9	147.2	127.4	
1919.....	118.7	128.2	106.7	139.0	90.7	145.5	117.3	152.2	133.9	
1920.....	140.0	151.0	126.3	163.1	108.6	170.4	144.0	176.6	155.9	
1921.....	108.0	105.4	111.4	112.8	113.8	112.6	122.8	110.2	110.0	
1922.....	95.1	90.2	101.4	99.1	104.1	98.2	108.7	95.8	97.3	
1923.....	93.7	91.2	97.0	97.8	102.5	97.1	111.9	93.7	98.0	
1924.....	93.2	90.4	96.8	99.5	102.7	99.0	106.6	97.5	99.4	
1925.....	97.2	97.7	96.5	104.9	99.2	105.5	102.9	106.2	102.6	
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
1927.....	95.7	99.4	93.3	98.5	101.1	98.1	96.1	98.6	97.7	
1928.....	95.6	99.6	92.9	96.7	93.7	97.0	97.4	96.9	96.5	
1929.....	94.7	100.0	91.1	96.3	94.6	96.5	99.0	95.9	95.6	
1930.....	89.3	93.1	86.8	82.8	92.9	81.7	90.8	79.7	86.6	
1931.....	76.5	70.4	83.5	67.8	90.0	65.3	81.8	61.7	72.2	
1929.....										
January.....	94.1	96.6	92.4	93.6	94.4	93.5	98.0	92.5	94.0	
February.....	94.2	97.5	92.0	95.5	94.1	95.6	98.9	94.9	95.0	
March.....	94.6	98.8	91.8	96.1	94.1	96.3	100.6	95.4	95.6	
April.....	93.6	97.4	91.0	95.0	94.0	95.1	100.2	94.0	94.5	
May.....	93.0	96.5	90.7	93.1	94.9	92.9	99.1	91.5	93.4	
June.....	93.4	96.7	91.2	93.5	94.0	93.4	98.6	92.2	93.4	
July.....	94.7	99.7	91.3	100.6	94.9	101.3	98.9	101.8	97.2	
August.....	96.3	103.7	91.3	100.2	94.9	100.8	99.2	101.2	98.4	
September.....	96.0	103.7	90.8	98.9	94.7	99.4	99.6	99.3	97.8	
October.....	95.5	103.7	90.1	97.1	94.3	97.4	98.5	97.1	96.8	
November.....	94.3	100.3	90.3	95.1	94.5	95.2	98.2	94.5	95.7	
December.....	95.3	103.3	90.0	95.9	96.2	95.9	97.9	95.5	96.0	
1930.....										
January.....	95.2	103.4	89.8	94.5	96.2	94.3	97.4	93.6	95.3	
February.....	95.0	103.3	89.4	91.8	96.2	91.5	96.6	90.4	93.9	
March.....	93.3	100.2	88.7	89.5	96.2	88.8	96.1	87.2	91.8	
April.....	92.3	99.4	87.5	90.0	96.2	88.3	94.7	86.9	91.2	
May.....	91.3	98.1	86.7	87.1	91.5	86.6	92.9	85.2	89.7	
June.....	89.5	94.2	86.4	85.0	91.4	84.3	92.2	82.5	87.7	
July.....	87.7	90.5	85.9	81.5	91.2	80.4	89.5	78.4	85.3	
August.....	86.3	87.2	85.7	79.9	91.2	78.6	87.8	76.6	83.7	
September.....	86.1	86.7	85.7	76.7	91.2	75.1	86.8	72.5	82.1	
October.....	86.0	87.0	85.4	74.6	91.2	72.8	85.6	70.0	81.0	
November.....	84.5	83.9	84.9	73.4	90.9	71.4	85.7	68.2	79.5	
December.....	83.2	81.0	84.6	71.3	91.5	69.0	85.0	65.5	77.7	
1931.....										
January.....	81.6	79.6	82.9	69.7	91.5	67.3	84.0	63.6	75.9	
February.....	80.6	78.0	82.4	69.4	91.3	67.0	83.5	63.4	75.5	
March.....	79.3	76.2	81.4	69.0	90.6	66.6	83.8	62.8	74.5	
April.....	77.9	74.5	80.1	69.2	90.6	66.8	83.6	63.1	73.9	
May.....	76.1	70.6	79.7	68.5	90.1	66.1	83.0	62.4	72.6	
June.....	75.7	68.9	80.2	68.0	89.1	65.7	82.8	61.9	71.9	
July.....	76.3	69.0	81.1	67.3	89.1	64.9	82.4	61.0	71.4	
August.....	75.3	68.6	79.7	65.9	88.8	63.4	81.2	59.5	70.6	
September.....	74.8	66.9	80.0	65.1	89.3	62.4	79.9	58.5	69.8	
October.....	74.2	65.6	79.9	66.3	89.3	63.7	79.8	60.1	70.0	
November.....	74.3	66.2	79.7	68.1	89.2	65.7	79.0	62.7	70.9	
December.....	74.0	65.4	79.8	67.3	91.1	64.7	79.0	61.6	70.6	

5.—Weighted Index Numbers of Wholesale Prices of Commodities, Classified According to Origin and Degree of Manufacture, by Yearly Averages, 1915-31.

(1926=100.)

Item.	Numbers of Commodities.		1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.
	1913-25.	1926-31.								
Totals, Raw and Partly Manufactured.....	107	232	72.7	85.1	113.8	120.7	131.5	155.7	107.5	94.1
Totals, Fully and Chiefly Manufactured.....	129	276	71.9	84.5	113.7	127.6	132.5	156.8	116.7	100.0
Articles of Farm Origin (domestic and foreign) Field (grains, etc.)—										
(a) Raw and partly manufactured.....	46	98	78.2	90.3	130.8	133.0	145.3	176.9	101.8	83.0
(b) Fully and chiefly manufactured.....	41	69	73.5	85.6	119.8	136.6	140.5	175.8	110.5	95.4
(c) Totals.....	87	167	73.1	85.3	122.2	131.3	139.3	169.5	103.4	89.2
Animal—										
(a) Raw and partly manufactured.....	25	41	75.5	87.5	114.7	134.6	146.6	147.1	104.7	95.0
(b) Fully and chiefly manufactured.....	28	49	72.8	85.8	112.2	126.0	141.4	146.3	113.1	96.8
(c) Totals.....	53	90	74.4	86.3	112.6	129.9	143.0	146.6	109.6	95.9
Canadian Farm Products—										
1. Field (grains, etc.).....	20	46	76.9	88.4	134.3	132.0	142.4	166.5	100.3	81.0
2. Animal.....	16	13	79.2	92.3	119.2	134.3	152.0	149.5	108.1	98.0
3. Totals.....	36	59	77.6	89.6	129.8	132.7	145.3	161.4	102.6	86.0
Articles of Marine Origin—										
(a) Raw and partly manufactured.....	2	5	72.7	80.6	99.5	119.1	127.8	133.7	91.6	90.0
(b) Fully and chiefly manufactured.....	6	11	62.7	66.3	85.6	109.2	111.3	106.9	91.6	92.0
(c) Totals.....	8	16	64.6	69.0	88.1	111.1	114.3	111.7	91.6	91.0
Articles of Forest Origin—										
(a) Raw and partly manufactured.....	16	31	57.1	66.3	80.0	89.3	111.4	156.9	123.4	106.0
(b) Fully and chiefly manufactured.....	5	21	54.8	56.4	72.4	88.6	104.2	146.4	148.6	107.0
(c) Totals.....	21	52	56.5	64.0	78.2	89.1	109.6	154.4	129.4	106.0
Articles of Mineral Origin—										
(a) Raw and partly manufactured.....	18	57	68.4	83.3	99.4	103.8	105.3	125.2	111.5	103.0
(b) Fully and chiefly manufactured.....	49	126	71.8	87.1	113.7	123.2	121.7	142.6	123.3	108.0
(c) Totals.....	67	183	68.3	81.4	102.6	111.3	112.4	131.4	117.6	105.0
Item.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.
Totals, Raw and Partly Manufactured.....	91.1	94.8	100.8	100.0	99.9	97.4	97.5	82.2	61.0	74.0
Totals, Fully and Chiefly Manufactured.....	103.1	101.9	103.8	100.0	96.5	95.0	93.0	87.3	75.0	68.0
Articles of Farm Origin (domestic and foreign) Field (grains, etc.)—										
(a) Raw and partly manufactured.....	83.6	89.4	100.6	100.0	99.0	90.2	89.5	67.4	44.0	58.0
(b) Fully and chiefly manufactured.....	101.1	102.7	106.9	100.0	96.9	93.9	90.7	84.0	69.0	62.0
(c) Totals.....	89.3	93.9	102.3	100.0	97.9	92.2	90.1	76.3	56.0	60.0
Animal—										
(a) Raw and partly manufactured.....	90.9	91.5	100.5	100.0	106.6	114.7	114.7	103.7	76.0	70.0
(b) Fully and chiefly manufactured.....	99.5	90.4	100.6	100.0	95.8	97.7	98.5	89.4	72.0	77.0
(c) Totals.....	95.6	92.0	100.6	100.0	100.5	105.1	105.5	95.6	77.0	73.0
Canadian Farm Products—										
1. Field (grains, etc.).....	73.3	82.6	98.1	100.0	99.9	92.6	93.8	70.0	42.0	50.0
2. Animal.....	94.9	96.9	105.4	100.0	105.7	114.3	112.5	102.9	77.0	70.0
3. Totals.....	79.8	86.9	100.3	100.0	102.1	100.7	100.8	82.3	56.0	60.0
Articles of Marine Origin—										
(a) Raw and partly manufactured.....	99.5	95.8	94.4	100.0	96.7	91.5	96.8	86.9	70.0	70.0
(b) Fully and chiefly manufactured.....	80.1	91.8	99.1	100.0	101.5	104.0	108.5	98.4	77.0	77.0
(c) Totals.....	83.6	92.5	98.3	100.0	100.2	100.6	105.3	95.3	77.0	77.0
Articles of Forest Origin—										
(a) Raw and partly manufactured.....	113.1	104.7	100.3	100.0	97.0	99.4	100.5	90.9	77.0	77.0
(b) Fully and chiefly manufactured.....	112.6	110.1	105.9	100.0	99.5	97.9	87.8	86.4	77.0	77.0
(c) Totals.....	113.0	105.9	101.6	100.0	98.3	98.6	93.7	88.5	77.0	77.0
Articles of Mineral Origin—										
(a) Raw and partly manufactured.....	105.5	101.7	101.8	100.0	94.6	91.2	92.7	86.1	78.0	78.0
(b) Fully and chiefly manufactured.....	107.4	107.0	101.6	100.0	94.6	91.8	92.8	86.4	77.0	77.0
(c) Totals.....	105.8	104.6	101.6	100.0	94.6	91.5	92.8	88.4	78.0	78.0

6.—Weighted Index Numbers of Wholesale Prices of Commodities, Classified According to Origin and Degree of Manufacture, by Months, 1926-31.
(1926=100.)

Origin and Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Totals, Raw and Partly Manufactured—												
1926.....	106.0	103.6	101.7	102.2	99.7	99.2	99.8	97.6	97.3	98.3	97.4	98.2
1927.....	98.8	98.5	98.4	99.0	101.4	102.2	102.0	100.9	98.8	99.5	100.0	100.8
1928.....	100.3	99.4	101.4	102.4	100.9	98.2	96.2	93.7	93.8	94.9	94.4	94.0
1929.....	94.2	96.2	96.6	94.7	93.0	92.9	101.6	102.3	101.8	100.5	97.2	98.9
1930.....	97.6	94.0	89.8	90.3	88.5	84.6	80.0	77.1	74.0	73.3	70.4	67.3
1931.....	66.4	65.8	64.4	64.1	62.7	61.3	60.4	59.5	58.5	59.7	61.4	60.2
Totals, Fully and Chiefly Manufactured—												
1926.....	103.0	102.1	101.5	100.5	99.8	100.1	99.7	99.3	98.6	98.1	97.4	97.5
1927.....	97.5	97.3	97.0	96.9	96.5	96.3	96.3	96.3	96.4	96.4	95.9	96.0
1928.....	95.6	95.4	95.7	95.7	95.3	95.3	94.8	95.0	95.1	94.6	94.2	93.8
1929.....	92.6	93.1	93.2	92.4	91.1	91.1	93.1	94.5	94.1	93.7	93.5	93.2
1930.....	92.6	92.3	91.3	90.0	88.9	87.2	85.8	85.4	84.8	83.9	82.8	81.5
1931.....	79.0	78.3	78.0	76.6	74.6	74.1	74.2	73.4	72.6	72.4	73.0	72.9
I. Articles of Farm Origin (Domestic and Foreign)—												
A. Field (grains, fruits, cotton, etc.)—												
Raw and partly manufactured—												
1926.....	109.4	104.6	100.7	105.3	102.4	100.0	101.9	98.0	95.6	96.7	95.3	93.7
1927.....	92.9	93.7	95.4	97.1	104.5	107.1	106.3	104.0	97.9	96.8	96.9	95.5
1928.....	95.3	94.1	97.7	101.1	101.4	94.7	89.6	83.1	81.0	83.4	82.0	80.9
1929.....	83.0	87.7	86.4	83.7	80.4	81.2	99.9	100.7	98.4	94.3	89.0	90.1
1930.....	86.7	81.3	75.9	78.3	77.2	74.8	68.4	63.9	56.5	53.3	49.1	44.2
1931.....	43.4	45.3	44.7	45.9	45.8	45.7	44.3	42.3	41.1	42.9	46.6	43.7
Fully and chiefly manufactured—												
1926.....	105.3	103.1	100.9	100.6	101.2	100.1	98.8	98.5	97.2	96.7	96.5	96.5
1927.....	96.6	97.0	95.9	96.2	97.4	98.5	98.5	97.5	96.7	96.7	96.2	96.5
1928.....	96.0	95.6	96.2	97.6	97.4	95.6	93.8	92.3	91.2	90.7	90.4	90.3
1929.....	89.6	90.5	89.6	88.3	86.7	86.7	90.5	93.8	94.2	93.8	92.9	92.7
1930.....	92.0	91.0	89.3	88.2	87.1	85.2	83.3	82.5	80.2	78.1	75.8	74.4
1931.....	71.8	71.9	71.8	71.4	70.4	69.5	68.7	67.7	66.7	66.6	69.0	68.6
Total—												
1926.....	107.2	103.8	100.8	102.8	101.7	100.0	100.2	98.3	96.5	96.7	95.9	95.2
1927.....	94.9	95.5	95.7	96.6	100.7	102.5	102.1	100.5	97.2	96.7	96.5	96.0
1928.....	95.7	94.9	96.9	99.2	99.2	95.2	91.9	88.1	86.5	87.3	86.5	86.0
1929.....	86.6	89.2	88.1	86.2	83.8	84.2	94.8	97.0	96.1	94.0	91.1	91.5
1930.....	89.6	86.5	83.1	86.6	82.5	80.4	76.4	73.9	69.3	66.7	63.5	60.5
1931.....	58.7	59.6	59.3	59.6	59.0	58.5	57.4	56.0	54.9	55.7	58.7	57.1
B. Animal—												
Raw and partly manufactured—												
1926.....	104.3	103.0	103.7	100.2	95.5	97.4	95.5	94.5	97.8	101.2	100.2	104.2
1927.....	108.4	106.3	105.8	106.8	102.9	102.1	102.1	102.3	106.2	109.5	111.8	117.6
1928.....	117.2	115.9	117.4	115.2	108.9	111.3	111.8	113.0	116.3	116.6	116.8	116.8
1929.....	113.3	112.8	114.9	113.4	114.0	112.1	111.9	113.0	115.6	118.4	115.3	119.8
1930.....	121.1	117.8	113.1	111.9	110.1	99.7	95.0	93.2	94.2	98.4	95.9	93.4
1931.....	92.1	86.9	83.4	81.1	77.0	72.7	72.3	73.3	71.5	71.1	71.0	69.8
Fully and chiefly manufactured—												
1926.....	103.7	103.8	104.5	101.3	97.2	100.1	100.4	99.3	98.5	97.1	95.7	96.5
1927.....	97.0	96.3	97.2	96.7	94.5	93.1	93.0	94.8	96.8	97.1	96.3	96.2
1928.....	95.9	95.4	95.9	93.9	92.6	96.0	98.4	101.1	103.3	101.7	100.3	98.7
1929.....	98.9	99.9	101.0	100.4	97.3	96.9	98.6	99.5	97.3	97.1	97.4	96.7
1930.....	95.6	96.1	95.2	92.6	90.7	87.5	85.4	85.3	86.7	86.6	86.6	83.9
1931.....	81.7	80.3	77.8	75.2	69.7	69.3	71.1	69.6	67.4	66.4	65.2	64.8
Totals—												
1926.....	104.0	103.5	104.2	100.8	96.5	98.9	98.3	97.2	98.2	98.9	97.7	99.8
1927.....	101.9	100.6	101.9	101.1	100.1	97.0	96.9	97.1	100.9	102.5	103.1	105.5
1928.....	105.1	104.3	105.2	103.1	99.7	102.6	104.2	106.3	108.9	108.2	107.5	106.5
1929.....	105.1	105.5	107.0	106.0	104.5	103.5	104.4	105.4	105.2	106.3	105.2	106.7
1930.....	106.7	105.5	103.0	101.0	99.1	92.8	89.6	88.7	90.0	91.7	90.6	88.0
1931.....	86.2	83.2	80.2	77.8	72.9	70.8	71.6	71.2	69.2	68.4	67.7	67.0

6.—Weighted Index Numbers of Wholesale Prices of Commodities, Classified According to Origin and Degree of Manufacture, by Months, 1926-31—concluded.

(1926=100.)

Origin and Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
II. Articles of Marine Origin—												
Raw and partly manufactured—												
1926.....	91.0	92.7	92.3	90.8	104.1	101.1	101.4	98.7	101.3	106.6	108.9	111.1
1927.....	102.3	98.2	90.9	90.6	101.4	95.2	92.2	91.7	100.2	108.4	104.4	93
1928.....	92.7	92.7	75.1	74.7	95.8	77.4	80.0	91.6	105.3	106.1	116.5	113
1929.....	101.3	95.0	96.9	89.7	92.2	91.1	93.2	91.8	96.2	107.7	107.7	99
1930.....	101.7	98.1	83.3	80.0	82.0	86.0	83.0	70.9	87.1	97.9	90.8	81
1931.....	80.9	72.9	72.9	68.8	63.8	64.2	60.7	64.7	69.6	76.6	77.7	69
Fully and chiefly manufactured—												
1926.....	101.0	97.7	99.1	100.4	98.8	98.8	100.2	100.8	100.5	100.9	101.4	100
1927.....	101.4	101.4	100.9	101.6	101.8	102.3	101.7	101.9	102.3	103.3	101.2	99
1928.....	100.0	103.0	101.3	102.7	102.9	103.9	103.8	103.6	105.2	107.7	107.1	105
1929.....	107.2	107.9	108.6	108.6	107.9	107.1	107.0	107.1	109.0	111.4	110.5	109
1930.....	106.0	105.0	102.7	100.3	98.5	98.1	97.1	94.7	92.9	95.0	92.5	89
1931.....	83.2	84.6	76.2	76.1	74.2	75.8	76.0	75.3	74.9	74.8	72.5	72
Totals—												
1926.....	98.3	96.3	97.3	97.8	100.2	99.4	100.5	100.2	100.7	102.4	103.4	103
1927.....	101.6	100.5	98.2	98.6	101.7	100.4	99.1	99.1	101.7	104.7	102.1	98
1928.....	98.0	100.2	94.2	95.1	101.0	96.7	97.4	100.3	105.2	107.3	109.6	107
1929.....	105.6	104.4	105.4	103.0	103.6	102.8	103.3	103.0	105.5	110.4	109.7	107
1930.....	104.8	103.1	97.4	94.8	94.0	94.8	93.3	88.3	91.3	95.8	92.0	87
1931.....	84.8	81.4	75.3	74.1	71.4	72.7	71.9	72.4	73.5	75.3	73.9	71
III. Articles of Forest Origin—												
Raw and partly manufactured—												
1926.....	101.3	101.4	100.8	100.5	100.4	100.3	101.2	100.3	100.4	97.8	97.4	97
1927.....	97.9	96.9	97.0	96.4	96.0	95.9	97.9	97.7	97.6	97.4	97.2	97
1928.....	96.7	96.9	97.6	97.8	98.0	98.2	100.4	101.2	102.1	104.7	101.3	100
1929.....	100.3	100.7	102.7	102.0	101.1	100.8	100.7	100.8	100.1	98.8	98.9	99
1930.....	99.3	98.1	96.3	95.0	93.5	92.4	89.1	86.9	86.2	85.0	85.2	84
1931.....	83.8	83.4	83.3	83.4	81.7	80.0	79.0	77.1	75.1	76.2	74.5	75
Fully and chiefly manufactured—												
1926.....	100.2	100.1	100.1	100.1	100.1	100.1	99.9	99.9	99.9	99.9	100.2	100
1927.....	99.8	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99.5	99
1928.....	99.7	99.7	99.7	99.7	99.7	99.6	96.1	96.1	96.1	96.2	96.2	96
1929.....	87.8	87.8	87.8	87.8	87.8	87.8	87.7	87.7	87.7	87.7	87.7	87
1930.....	87.6	87.5	87.5	87.5	86.0	86.0	85.8	85.8	85.8	85.8	85.8	85
1931.....	80.0	80.0	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	79.9	83
Totals—												
1926.....	100.7	100.7	100.4	100.3	100.2	100.2	100.5	100.1	100.1	98.9	98.8	99
1927.....	98.9	98.3	98.3	98.1	97.9	97.8	98.8	98.7	98.6	98.5	98.4	98
1928.....	98.3	98.4	98.7	98.8	98.9	98.9	98.1	98.5	98.9	98.5	98.6	98
1929.....	93.6	93.8	94.7	94.4	94.0	93.9	93.8	93.8	93.5	92.9	92.9	93
1930.....	93.1	92.4	91.6	91.0	89.5	89.0	87.3	86.3	86.0	85.4	85.5	85
1931.....	81.8	81.6	81.5	81.5	80.7	80.2	79.5	78.6	77.7	78.2	77.4	77
IV. Articles of Mineral Origin—												
Raw and partly manufactured—												
1926.....	102.8	103.2	102.6	98.4	97.6	98.8	99.3	99.4	99.1	98.6	98.5	100
1927.....	101.3	101.0	97.3	94.8	94.0	93.3	92.9	92.9	91.6	93.3	93.0	92
1928.....	92.0	92.0	91.9	91.5	90.4	90.6	90.1	90.5	90.8	91.0	91.2	90
1929.....	92.7	92.7	94.4	93.3	92.1	92.7	92.7	92.6	92.7	92.4	92.0	90
1930.....	92.2	91.9	90.4	89.5	85.6	84.8	84.3	84.2	84.3	83.2	81.9	80
1931.....	83.9	80.2	79.0	77.4	76.4	75.6	75.4	75.6	76.4	78.1	78.8	80
Fully and chiefly manufactured—												
1926.....	99.7	100.2	100.4	99.9	100.0	100.2	100.2	100.2	100.2	100.3	99.0	99
1927.....	97.8	97.5	96.8	96.7	95.0	93.8	93.6	93.5	93.1	92.8	92.5	90
1928.....	91.9	91.9	91.7	91.4	91.3	90.9	91.1	91.7	91.7	91.9	92.1	90
1929.....	92.8	92.2	92.7	92.1	93.0	93.2	93.7	93.3	92.7	91.8	92.2	90
1930.....	92.2	92.0	91.8	91.1	90.8	90.3	89.9	89.8	89.6	89.2	88.7	88
1931.....	87.8	87.4	88.4	85.6	81.3	84.0	84.0	83.8	84.4	84.6	84.5	80
Totals—												
1926.....	101.1	101.5	101.4	99.2	98.9	99.6	99.8	99.8	99.7	99.5	98.8	100
1927.....	99.4	99.1	97.0	95.9	94.6	93.6	93.3	93.2	92.4	93.0	92.7	90
1928.....	91.9	91.9	91.8	91.4	90.9	90.8	90.7	92.2	92.3	91.4	92.3	90
1929.....	92.8	92.4	93.5	92.6	92.6	93.0	93.3	93.0	92.7	92.1	92.1	90
1930.....	92.2	92.0	91.2	90.4	88.5	87.8	87.4	87.3	87.2	86.5	85.7	80
1931.....	84.7	84.2	84.2	81.9	80.8	80.2	80.2	80.1	80.8	81.7	82.0	80

Section 2.—Retail Prices of Commodities.

Collection of data and calculation of index numbers of retail prices and the cost of living are carried out in co-operation by the Dominion Bureau of Statistics (Department of Trade and Commerce) and the Department of Labour. Resultant series of index numbers are computed from different points of view. The computations of the Labour Department are designed to show changes in the cost of living for workingmen in cities. They are constructed from family budgets, principally the weekly family budget of staple foods, fuel and rent published monthly in the *Labour Gazette* since 1915 and annually since 1911; in addition, figures are included for clothing and sundry items and further data for fuel, light and rent. The Labour Department aims by this method to have a basis for computation that can be readily applied to the data for any given locality or district at any time, or for any class of labour, for instance, coal miners, who usually do not live in cities. Index numbers of retail prices and costs of living issued by the Bureau are constructed from a more general point of view, having for their object the measurement of the general movement of such prices and costs in the Dominion as a whole, and being so calculated as to make comparisons possible with other general index numbers constructed on similar principles, for example, the index of wholesale prices. Calculated as they are on the aggregative principle, *i.e.*, the total consumption of each commodity, the Bureau's index numbers afford an excellent measurement of changes in the average cost of living in the Dominion as distinguished from that of any particular class or section.

In the Bureau's index 1926 is taken as the base year and is represented by 100 to bring it into conformity with other series of index numbers shown in this report. A description of the system of weighting of individual items, sub-groups and groups, and of the method of construction of this index number was given at p. 812-8 of the 1931 Year Book. The Labour Department uses 1913 as 100 for both cost of living and wages index numbers. As will be seen from Table 7, the general cost of living declined appreciably during 1931, the annual index for that year being 89.6 as compared with 99.2 for 1930. The fall in the food index from 91.1 to 71.2 between January and December (inclusive), 1931, and the drop in the clothing index from 88.3 to 76.4, were the factors chiefly responsible for the decline. Rentals, however, reacted, after reaching a peak in 1930, to fall from 105.5 to 99.3 during the year. Changes in the fuel and sundries indexes were of minor proportions.

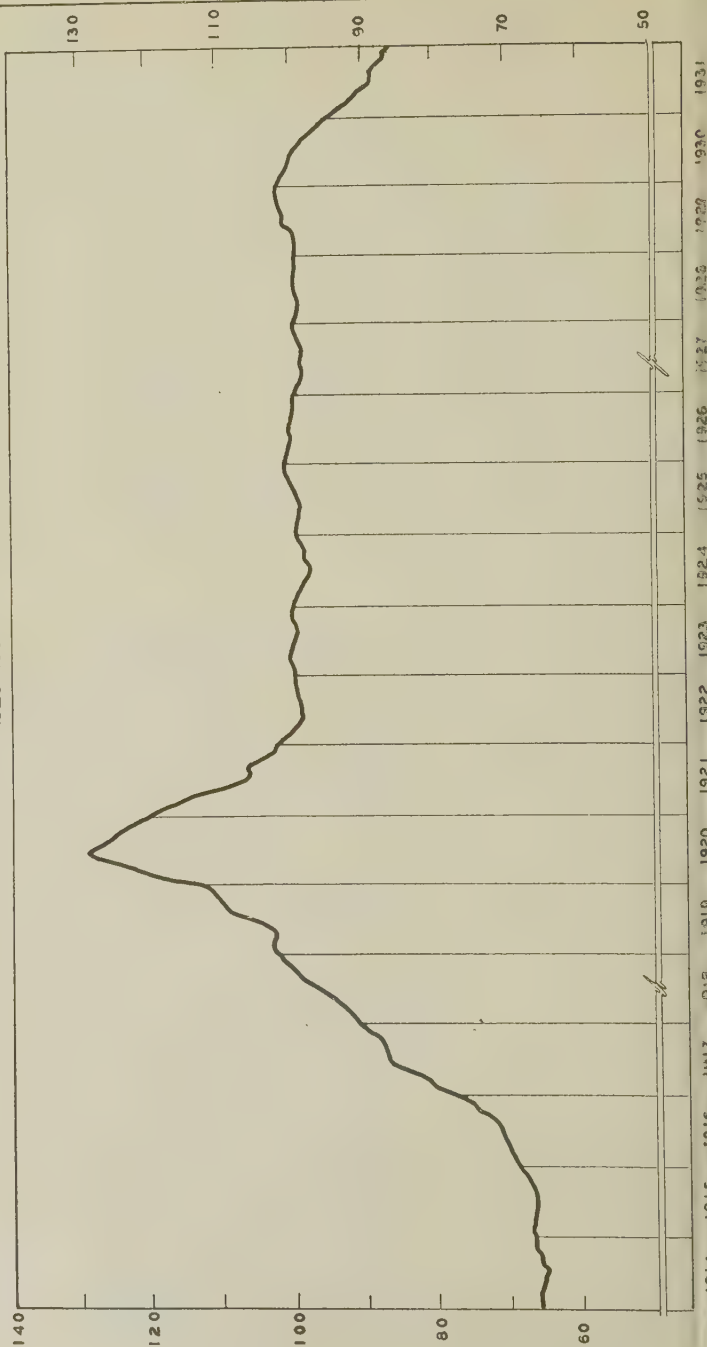
7.—Index Numbers of Canadian Retail Prices, 1914-31, Changed to New Base, 1926=100.

Year.	Food Index.	Fuel Index.	Rent Index.	Clothing Index.	Sundries Index.	Total Index.
1914.....	68.9	64.5	62.2	63.9	66.2	66.0
1915.....	69.5	63.2	60.3	69.6	66.9	67.3
1916.....	77.5	64.5	60.9	79.7	70.2	72.5
1917.....	100.0	71.7	65.4	93.7	76.8	85.6
1918.....	114.6	78.9	69.2	109.5	86.1	97.4
1919.....	122.5	86.2	75.6	125.9	95.4	107.2
1920.....	141.1	102.6	86.5	153.2	104.0	124.2
1921.....	107.9	109.2	94.2	124.7	106.0	109.2
1922.....	91.4	104.6	98.1	105.7	106.0	100.0
1923.....	92.1	104.6	100.6	104.4	105.3	100.0
1924.....	90.7	102.0	101.3	101.9	103.3	98.0
1925.....	94.7	100.0	101.3	101.9	101.3	99.3
1926.....	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	98.1	97.9	98.8	97.5	99.1	98.4
1928.....	98.6	96.9	101.2	97.4	98.8	98.9
1929.....	101.0	96.4	103.3	96.9	99.0	99.9
1930.....	98.6	95.7	105.9	93.9	99.4	99.2
1931.....	77.3	94.5	103.0	82.2	97.4	89.6

INDEX NUMBERS OF RETAIL PRICES

FOOD, FUEL, LIGHTING, RENTS, CLOTHING AND SUNDRIES

1926=100



-Index Numbers of Retail Prices, Rents and Costs of Services, by Months, 1929, 1930, 1931 and January-April, 1932 (1926=100).

Year and Month.	Food Index.	Fuel Index.	Rent Index.	Clothing Index.	Sundries Index.	Total Index Number.
1929.						
January.....	100.3	96.7	101.2	97.6	98.6	99.3
February.....	99.4	96.8	101.2	97.6	98.5	99.0
March.....	100.0	97.0	101.2	97.3	98.5	99.2
April.....	98.1	97.1	101.2	97.3	98.6	98.6
May.....	97.9	96.3	103.6	96.9	98.8	99.0
June.....	97.8	95.7	103.6	96.9	99.1	99.0
July.....	98.5	95.6	103.6	96.9	99.2	99.2
August.....	104.2	95.8	103.6	96.7	99.4	101.0
September.....	103.6	95.9	103.6	96.7	99.5	100.8
October.....	103.2	96.1	105.5	96.7	99.5	101.1
November.....	104.3	96.7	105.5	96.5	99.5	101.4
December.....	104.8	96.9	105.5	96.5	99.5	101.6
1929 Averages.....	101.0	96.4	103.3	96.9	99.0	99.9
1930.						
January.....	106.5	96.6	105.5	96.5	99.7	102.1
February.....	106.0	96.6	105.5	95.9	99.6	101.9
March.....	104.8	96.7	105.5	95.9	99.6	101.5
April.....	101.1	96.5	105.5	95.9	99.7	100.4
May.....	100.7	95.1	106.5	95.0	99.6	100.2
June.....	100.4	94.9	106.5	95.0	99.6	100.2
July.....	98.5	94.8	106.5	95.0	99.6	99.5
August.....	96.3	95.1	106.5	95.0	99.6	98.9
September.....	93.1	95.1	106.5	91.6	99.3	97.2
October.....	92.8	95.7	105.5	91.6	99.3	97.0
November.....	92.6	95.7	105.5	91.6	99.1	96.9
December.....	91.5	95.7	105.5	88.3	98.9	95.9
1930 Averages.....	98.6	95.7	105.9	93.9	99.4	99.2
1931.						
January.....	89.1	95.5	105.5	88.3	98.0	94.9
February.....	85.6	95.6	105.5	88.3	98.0	93.9
March.....	82.8	95.6	105.5	84.7	97.4	92.2
April.....	80.5	95.5	105.5	84.7	97.4	91.6
May.....	77.7	94.0	103.3	84.7	97.4	90.2
June.....	75.0	93.6	103.3	81.1	97.3	88.7
July.....	74.7	93.5	103.3	81.1	97.3	88.6
August.....	75.5	94.6	103.3	81.1	97.3	88.9
September.....	73.5	93.9	103.3	78.6	97.2	87.8
October.....	71.4	94.3	99.3	78.6	97.2	86.4
November.....	71.5	94.5	99.3	78.6	97.2	86.4
December.....	71.2	94.2	99.3	76.4	97.1	85.9
1931 Averages.....	77.3	94.5	103.0	82.2	97.4	89.6
1932.						
January.....	69.6	94.3	99.3	76.4	97.1	85.4
February.....	66.5	94.2	99.3	76.4	97.1	84.5
March.....	66.0	93.9	99.3	76.4	97.1	84.3
April.....	65.4	93.1	99.3	76.4	97.1	84.1

The Family Budget.—A family budget constructed by the Department of Labour appears regularly in the *Labour Gazette*. This budget material has been used by the Bureau to obtain the tables which follow.

Table 9 shows the average prices of items included in the family budget 1913, 1920 and each of the years from 1923-31. The index numbers are weighted by the quantities used by the Department of Labour in computing their monthly family budget. Table 10 gives these group indexes by provinces. An examination of the tables reveals the course of the budget, consisting of food, fuel and light, and rent, over the period shown.

9.—Prices of a Family Budget of Staple Foods, Fuel and Lighting, and Rent, in Sixty Cities in Canada, 1913, 1920, 1923-31.

Commodity.	Quantity.	1913.	1920.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Beef, sirloin steak....	1 lb.	0-222	0-389	0-283	0-280	0-285	0-294	0-308	0-345	0-363	0-356	0-356
Beef, chuck roast....	1 "	0-148	0-251	0-152	0-148	0-152	0-160	0-172	0-206	0-227	0-221	0-221
Veal, roast.....	1 "	0-157	0-274	0-182	0-179	0-182	0-193	0-203	0-226	0-245	0-239	0-239
Mutton, roast.....	1 "	0-191	0-354	0-277	0-278	0-289	0-298	0-291	0-300	0-309	0-302	0-302
Pork, fresh, roast....	1 "	0-195	0-397	0-264	0-240	0-275	0-302	0-282	0-273	0-300	0-298	0-298
Pork, salt mess.....	1 "	0-176	0-362	0-252	0-231	0-254	0-278	0-265	0-261	0-273	0-271	0-271
Bacon, breakfast....	1 "	0-247	0-559	0-394	0-337	0-385	0-431	0-393	0-379	0-393	0-399	0-399
Lard, pure leaf.....	1 "	0-192	0-380	0-231	0-220	0-242	0-246	0-221	0-221	0-219	0-212	0-212
Eggs, fresh.....	1 doz.	0-337	0-709	0-442	0-439	0-486	0-466	0-487	0-478	0-475	0-457	0-457
Eggs, storage.....	1 "	0-281	0-608	0-370	0-368	0-417	0-398	0-424	0-412	0-403	0-394	0-394
Milk.....	1 qt.	0-086	0-151	0-117	0-121	0-119	0-118	0-119	0-121	0-123	0-123	0-123
Butter, dairy.....	1 lb.	0-292	0-631	0-399	0-387	0-389	0-406	0-415	0-417	0-428	0-368	0-368
Butter, creamery....	1 "	0-339	0-696	0-451	0-435	0-439	0-448	0-463	0-461	0-470	0-405	0-405
Cheese, old.....	1 "	0-205	0-406	0-326	0-301	0-312	0-318	0-310	0-329	0-334	0-318	0-318
Cheese, new.....	1 "	0-191	0-383	0-326	0-301	0-312	0-318	0-310	0-329	0-334	0-318	0-318
Bread, plain white..	1 "	0-041	0-093	0-067	0-069	0-078	0-076	0-077	0-077	0-078	0-075	0-075
Flour, family.....	1 "	0-032	0-079	0-044	0-045	0-057	0-053	0-053	0-052	0-051	0-047	0-047
Rolled oats.....	1 "	0-044	0-084	0-055	0-056	0-061	0-058	0-061	0-063	0-064	0-061	0-061
Rice, good medium...	1 "	0-057	0-164	0-104	0-105	0-109	0-110	0-108	0-105	0-104	0-101	0-101
Beans, handpicked...	1 "	0-062	0-117	0-087	0-084	0-083	0-079	0-081	0-089	0-115	0-094	0-094
Apples, evaporated...	1 "	0-120	0-286	0-200	0-194	0-204	0-200	0-194	0-210	0-213	0-206	0-206
Prunes, medium....	1 "	0-119	0-270	0-185	0-160	0-156	0-158	0-148	0-135	0-141	0-155	0-155
Sugar, granulated...	1 "	0-059	0-197	0-117	0-109	0-085	0-079	0-083	0-079	0-073	0-068	0-068
Sugar, yellow.....	1 "	0-055	0-185	0-112	0-104	0-081	0-075	0-079	0-075	0-069	0-065	0-065
Tea, black.....	1 "	0-356	0-644	0-656	0-700	0-714	0-719	0-716	0-713	0-704	0-628	0-628
Tea, green.....	1 "	0-372	0-672	0-656	0-700	0-714	0-719	0-716	0-713	0-704	0-628	0-628
Coffee.....	1 "	0-376	0-608	0-539	0-550	0-604	0-612	0-612	0-607	0-604	0-572	0-572
Potatoes.....	1 pk.	0-150	0-658	0-252	0-270	0-276	0-436	0-317	0-258	0-291	0-355	0-355
Vinegar, white wine..	1 pt.	0-064	0-080	0-075	0-080	0-080	0-080	0-080	0-080	0-080	0-080	0-080
All Foods, Weekly Budget¹.....	\$	7-34	15-99	10-52	10-31	10-81	11-21	11-00	11-04	11-34	10-96	
Starch, laundry.....	1 lb.	0-096	0-144	0-122	0-122	0-124	0-124	0-123	0-123	0-123	0-123	0-123
Coal, anthracite.....	1 ton	8-80	17-04	17-989	17-052	16-833	17-392	16-465	16-272	16-192	16-112	16-112
Coal, bituminous....	1 "	6-19	12-38	11-555	10-707	10-249	10-311	10-213	10-113	10-08	10-064	10-064
Wood, hard, best....	1 cord	6-80	13-09	12-764	12-485	12-280	12-195	12-128	12-077	12-208	12-176	12-176
Wood, soft.....	1 "	4-90	10-14	9-512	9-209	8-979	8-947	8-96	8-937	8-800	8-672	8-672
Coal oil.....	1 gal.	0-237	0-365	0-307	0-306	0-304	0-308	0-314	0-311	0-311	0-309	0-309
Rent, 1 month.....	\$	19-00	24-80	27-86	27-79	27-54	27-43	27-43	27-67	27-92	28-16	28-16
Grand Totals, Weekly Budget¹...	\$	14-02	25-91	21-07	20-69	21-06	21-47	21-20	21-27	21-61	21-29	

¹Totals for "all foods" and "grand totals" are based upon the estimated weekly family consumption of the commodities specified in the table.

-Index Numbers of a Family Budget of Staple Foods, Fuel and Lighting, and Rent in Canada, by Provinces, 1920, 1923-31.

(Dominion Average for 1913=100.)

STAPLE FOODS.

Province.	1920.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
Prince Edward Island.....	193.4	130.0	128.9	134.8	142.3	136.8	134.3	139.1	140.4	115.4
Nova Scotia.....	221.0	148.8	144.1	149.5	154.8	148.0	149.3	153.5	151.6	121.7
New Brunswick.....	214.1	146.6	144.7	147.7	155.9	150.1	149.0	151.4	149.1	119.9
Quebec.....	206.7	137.0	132.2	139.3	144.9	139.4	139.2	142.8	138.8	107.4
Ontario.....	225.2	142.7	139.5	145.0	154.2	150.8	151.0	153.8	148.7	114.5
Manitoba.....	220.2	136.4	133.1	141.7	142.2	141.6	145.6	151.2	144.5	108.8
Saskatchewan.....	215.6	141.1	137.7	148.2	148.6	150.7	152.3	158.3	149.1	110.4
Alberta.....	218.0	138.2	139.4	149.9	147.5	148.4	151.1	158.9	150.9	111.8
British Columbia.....	232.0	155.5	154.1	164.6	163.1	163.2	164.6	170.4	164.5	129.6

FUEL AND LIGHTING.

Prince Edward Island.....	181.8	196.6	179.1	174.3	167.0	162.8	152.4	154.5	153.9	152.9
Nova Scotia.....	170.6	163.8	160.9	157.1	155.5	150.8	152.4	151.8	150.3	149.2
New Brunswick.....	185.3	174.8	169.5	164.9	168.1	164.4	161.8	160.2	160.7	156.0
Quebec.....	195.0	183.8	175.4	172.8	177.5	175.4	174.9	174.9	173.3	167.0
Ontario.....	198.5	194.1	183.0	179.6	182.2	179.1	177.0	177.0	175.9	173.3
Manitoba.....	206.3	203.9	195.3	188.5	184.8	183.2	184.8	189.5	190.1	181.7
Saskatchewan.....	210.3	201.7	195.2	186.4	181.2	182.7	183.8	181.2	174.9	160.7
Alberta.....	161.6	134.8	122.5	128.3	126.2	122.0	108.4	100.5	100.5	97.4
British Columbia.....	182.6	156.1	152.4	147.1	147.6	147.1	147.1	147.6	147.6	146.1

RENT.

Prince Edward Island.....	84.5	121.7	123.8	122.5	118.5	118.5	118.5	122.3	123.8	123.8
Nova Scotia.....	107.7	117.7	118.5	117.5	117.9	117.9	117.9	117.9	121.1	126.9
New Brunswick.....	119.8	138.7	142.1	142.1	142.1	142.1	142.1	142.1	139.4	135.6
Quebec.....	93.0	118.0	121.1	120.8	120.8	121.7	122.7	123.2	125.9	124.4
Ontario.....	154.8	151.7	154.4	152.8	151.8	151.2	153.1	154.3	155.8	153.3
Manitoba.....	159.6	181.2	184.2	184.2	184.2	184.2	184.2	184.2	184.2	176.6
Saskatchewan.....	178.1	184.5	187.6	184.2	184.2	184.2	184.2	184.2	185.7	176.8
Alberta.....	154.7	157.7	150.8	148.0	151.8	152.4	151.8	157.9	161.7	160.4
British Columbia.....	119.3	132.1	134.3	135.4	135.8	136.6	138.1	139.8	140.8	140.2

GRAND TOTALS.

Prince Edward Island.....	154.5	136.2	133.7	135.6	137.3	134.0	131.2	135.3	136.3	123.1
Nova Scotia.....	175.3	140.1	137.4	139.4	142.1	138.4	138.9	141.0	140.8	127.0
New Brunswick.....	177.8	147.7	146.9	147.9	152.7	149.1	148.2	149.2	147.1	129.9
Quebec.....	166.0	136.7	134.1	137.4	141.0	138.1	138.3	140.3	138.8	121.1
Ontario.....	187.1	152.5	150.2	152.2	156.8	154.6	155.0	156.9	154.5	135.4
Manitoba.....	197.4	160.7	158.6	162.2	161.9	161.5	163.8	167.4	163.9	141.5
Saskatchewan.....	202.1	163.9	162.1	165.3	164.8	166.2	167.2	170.0	164.7	139.5
Alberta.....	188.6	144.1	140.6	146.0	145.8	145.9	145.3	150.4	147.4	126.1
British Columbia.....	186.6	147.2	146.9	152.0	151.5	151.5	153.0	156.7	153.9	135.2

Section 3.—Index Numbers of Security Prices.

Many important advances have recently been made in the direction of improving technique of making index numbers of security prices. The chief of these first, the computation of index numbers to serve different purposes; secondly, fitting of the index numbers so that they will accurately represent the market—

an accurate index of market trends cannot be made on the basis of a simple average of market quotations or on any system which does not consider weighting; thirdly, using weighted average prices of individual securities rather than the average of high and low quotations or closing quotations. This last point is of considerable importance, because the average price at which a stock sells on a day's market frequently differs widely from the average of its high and low quotations or its closing price.

In the revised index numbers of security prices which have recently been issued by the Bureau full use of the improvements mentioned has been made, and these index numbers are now in line with the most advanced technique pertaining to the making of such indexes. In the revision the base of the calculations was also changed. The basic period is now the year 1926, that is, prices prevailing in that year are taken as 100 and subsequent price movements are expressed as a percentage. The year 1926 was chosen as the base, in conformity with the tendency which now prevails to substitute a post-war for a pre-war base. This year was also chosen in order to enable comparisons to be made with important indexes in the United States.

Two series of index numbers are now published by the Bureau on a weekly basis, *viz.*, investors' and traders' indexes. (See Tables 11 and 12.) As will be apparent, these measure movements of an entirely different character. The traders' index is based upon the prices of the twenty-five best selling industrial and public utility common stocks sold on the Montreal and Toronto exchanges each week. This traders' index measures the trend of gains or losses for an "average" trader on the Montreal and Toronto stock exchanges, who buys and sells the leading common stocks in the same proportion as they are traded in the market as a whole and who turns over his investments every week. The investors' index, on the other hand, measures the trend of values for the investor who buys a list of stocks and holds them over a long period of time.

Investors' Index Numbers of Common Stocks, 1913 to 1931.—Montreal figures for the investors' index number of common stocks, computed by the Dominion Bureau of Statistics on the basis 1926=100, have been carried back to 1913. The index falls into two parts, *viz.*, the period subsequent to 1926 and the earlier period. For the period 1913 to 1926 those stocks were used which were included in the index number previously issued on the 1913 base, *viz.*, 31 industrials, 10 public utilities and 9 banks, or 50 stocks in all. In the subsequent period the list of stocks included in the monthly index numbers was enlarged and now contains 98 industrials, 18 domestic utilities, 8 companies located abroad and 8 bank stocks. Despite the difference in the number of stocks included, the trend of stock prices is adequately shown throughout the whole period. The larger number of stocks included in the revised index number, though adding little to the accuracy of the general index, gives more complete information regarding various groups of stocks traded on Canadian exchanges.

Banks are included in the monthly index numbers but not in the weekly, trading in such securities not being, as a rule, sufficiently important to warrant their inclusion in a weekly index. In any case, their inclusion does not affect the general index by more than a point or two.

11.—Investors' Index Numbers of Common Stocks, by Months, 1931.

NOTE.—For earlier figures, see p. 782 of the 1930 Year Book, p. 784 of the 1929 Year Book, and pp. 796-800 of the 1927-28 Year Book.

Month.	Types and Numbers of Securities.										
	Industrials.										
	Grand Total.	Banks Total.	Indus- trials Total.	Iron and Steel, and Iron and Steel Pro- ducts.	Pulp and Paper.	Mill- ing.	Oils.	Text- iles and Cloth- ing.	Food and Allied Pro- ducts.	Bever- ages.	Mis- cella- neous.
	132	8	98	19	9	5	4	9	22	9	21
1931.											
January.....	106.9	109.1	124.7	143.7	23.8	107.6	190.8	65.9	112.0	69.3	141.0
February.....	111.6	110.1	129.3	149.5	22.8	102.1	184.5	65.5	123.4	75.1	159.6
March.....	110.8	111.6	127.8	151.8	21.8	102.8	169.0	62.5	128.7	74.9	169.1
April.....	97.1	109.1	106.8	126.7	18.1	86.2	137.0	59.3	122.6	67.2	140.5
May.....	81.4	101.3	89.0	103.2	14.4	56.2	119.6	49.9	109.8	57.0	112.8
June.....	80.1	97.1	91.1	99.1	13.6	53.0	127.2	49.7	106.0	55.7	116.0
July.....	83.7	100.3	94.6	101.6	13.9	72.4	131.2	50.6	114.1	56.7	120.2
August.....	81.3	97.3	94.4	100.6	12.6	69.5	141.5	50.2	112.5	55.7	111.4
September.....	68.6	94.3	79.3	85.9	11.5	56.8	115.0	46.1	105.8	49.1	93.4
October.....	64.6	92.9	74.3	78.3	10.3	57.5	107.4	45.4	101.0	45.3	88.2
November.....	71.9	92.9	86.6	88.8	12.2	69.5	132.3	46.1	107.1	48.9	100.5
December.....	64.8	92.9	74.3	77.2	10.7	65.9	108.7	45.2	98.9	42.1	87.7

Month.	Types and Numbers of Securities.						
	Public Utilities.				Companies Abroad.		
	Public Utilities Total.	Trans- portation.	Telephone and Telegraph.	Power and Traction.	Companies Abroad Total.	In- dustrial.	Utility.
	18	2	2	14	8	1	7
1931.							
January.....	107.3	102.2	106.7	115.6	83.6	90.9	80.5
February.....	114.9	109.4	111.6	124.2	84.9	85.3	89.2
March.....	116.1	105.1	110.2	132.6	79.3	76.7	86.6
April.....	104.8	92.0	108.4	121.3	67.8	70.0	69.1
May.....	85.2	71.0	100.5	100.8	58.7	65.1	55.1
June.....	80.4	65.9	101.3	95.1	59.8	63.8	58.8
July.....	81.7	65.1	103.2	99.0	69.3	71.0	71.4
August.....	76.6	54.8	100.8	99.6	68.1	78.2	61.0
September.....	65.4	44.1	95.4	86.5	49.1	58.8	41.2
October.....	60.1	38.8	90.1	81.2	48.0	60.0	37.5
November.....	63.5	43.7	93.5	82.9	58.8	75.1	44.1
December.....	59.3	38.0	90.5	80.3	51.5	64.8	39.7

12.—Traders' Index Numbers of Prices and Volume of Sales, Monthly Averages. January, 1929-May, 1932.

(1926=100.)

NOTE.—The Traders' Index measures the trend of gains or losses for an "average" trader, on the Montreal and Toronto stock exchanges, who buys and sells in the same proportion as stocks are traded in the market as a whole and turns over his investments every week.

Column 1.—Weighted index numbers of the prices of the 25 best selling Industrial and Public Utility common stocks on the Montreal and Toronto Exchanges.

Column 2.—Index numbers of the total money value of the stocks included in 1 above, and traded during the month.

Month.	1929.		1930.		1931.		1932.	
	Price.	Value.	Price.	Value.	Price.	Value.	Price.	Value.
January.....	1,039.5	634.5	828.9	93.6	609.8	20.6	402.8	5.0
February.....	1,125.8	301.8	864.3	80.1	660.2	49.7	400.8	7.0
March.....	1,057.3	269.5	898.6	112.7	714.3	44.5	413.6	7.0
April.....	962.4	150.2	1,010.9	172.0	621.5	31.1	304.2	6.0
May.....	955.1	157.1	921.2	101.1	495.2	46.5	261.2	6.0
June.....	968.0	96.1	821.3	102.9	464.8	28.6	—	—
July.....	1,032.1	115.3	768.6	24.3	492.4	14.7	—	—
August.....	1,170.1	273.5	731.3	36.2	470.7	9.0	—	—
September.....	1,230.4	264.2	778.4	61.6	394.5	19.5	—	—
October.....	1,125.8	406.1	618.1	77.9	360.6	9.2	—	—
November.....	769.2	173.6	612.7	26.2	448.5	19.8	—	—
December.....	786.7	96.7	596.5	31.1	390.7	5.3	—	—

The value indexes shown above have replaced a former series which was calculated by the use of chain relatives, because the contraction in both sales and prices during the past two years had developed a tendency to exaggerated movement which is inherent in this type of index. It was therefore dropped, and the fixed base aggregative index given was adopted in its stead. This series measures accurately changes in the total value of the shares traded in the twenty-five best selling issues on the Montreal and Toronto stock exchanges. These variations have been found to correspond closely with the movements in total values of shares traded on the two exchanges mentioned.

Weighted Index Numbers of Mining Stocks.—A weighted index number of mining stocks is computed by the Dominion Bureau of Statistics on the basis 1926=100. Mines of a semi-industrial nature, such as International Nickel and Consolidated Mining and Smelting Company, do not appear here but are included in the Bureau's Investors' index of common industrial and public utility stocks.

Stocks included in this index are confined to producing mines, those which are about to pass into this category, and a couple which have large interests in other producing mines. Each stock is weighted by the number of shares outstanding.

Index numbers are calculated for the total stocks and for three groups, viz. gold stocks, gold-copper stocks, and silver and miscellaneous stocks. The gold stocks are Premier, Coniaurum, Dome, Hollinger, McIntyre, Vipond Consolidated, Kirkland Lake Mines, Lake Shore, Sylvanite, Teck-Hughes and Wright-Hargreave. Gold-copper stocks included Amulet, Hudson Bay, Sherritt-Gordon, and Norand. Silver and miscellaneous stocks are Nipissing, Coniagas, Keely, Castle-Tretheway and Mining Corporation. The term "silver and miscellaneous" is used because all five stocks have important interests other than silver and two of the five are not now producing silver.

Except for the early months of the year and in November, the course of prices for mining stocks in 1931 was gradually downward. A general index of prices rose from 68·5 in January to 82·3 in April, the highest index for the year, and then reacted steadily to the lowest level of 59·0 in December. Three sub-groups followed substantially the same path as outlined for the general index. The gold stocks index rose from 68·1 in January to 77·5 in April and declined thereafter to 59·0 in December. From 103·7 in April, the copper group fell to 58·4 in October, while silver and miscellaneous declined from 43·9 in March to 27·6 in December.

13.—Weighted Index Numbers of Mining Stocks, by Months, 1930-31.

(1926=100.)

Year and Month.	Types of Stocks.			
	Gold.	Gold-Copper.	Silver and Miscellaneous.	Total.
Number of Stocks.....	11	2	4	17
1930.				
January.....	57·4	191·4	49·6	78·9
February.....	62·9	209·3	50·1	86·1
March.....	62·5	206·3	47·8	85·2
April.....	63·6	189·8	43·5	83·3
May.....	64·5	144·6	35·8	76·3
June.....	64·3	126·3	32·2	73·1
July.....	61·3	115·3	28·1	68·7
August.....	61·2	111·6	29·4	68·0
September.....	62·6	108·4	28·5	68·7
October.....	59·7	76·2	25·1	61·3
November.....	56·9	83·3	28·3	60·5
December.....	57·8	69·1	30·0	59·2
Number of Stocks.....	11	4	5	20
1931.				
January.....	68·1	74·4	34·1	68·5
February.....	72·0	82·7	36·8	73·3
March.....	72·3	96·7	43·9	77·1
April.....	77·5	103·7	39·2	82·3
May.....	72·9	90·1	35·1	75·9
June.....	68·6	75·1	31·5	69·1
July.....	66·8	79·1	32·0	68·6
August.....	66·0	77·1	33·1	67·8
September.....	62·6	67·8	32·1	63·1
October.....	60·7	58·4	29·4	59·5
November.....	64·4	68·6	32·3	64·6
December.....	59·0	62·4	27·6	59·0

Section 4.—Prices of Services.

A study of the prices of services sheds considerable light on the cost of living as such services are a considerable item in the average family budget. Information with regard to the trend of street car fares, of rates for manufactured and natural fuel gas, of domestic electric light rates and of telephone charges was published on pp. 801-4 of the 1927-28 Year Book. Later information shows that the prices of manufactured fuel gas have shown a downward tendency, the Dominion index number for 1930 being 97·4, as compared with 100·0 in 1926. The index number of the price of natural fuel gas also declined from 100·0 in 1926 to 92·1 in 1930.

On the other hand, telephone rates have shown a distinct increase, the Dominion index number for domestic telephone rates having risen from 100.0 in 1926 to 107.2 in 1930. Again, the business telephone rate has risen from 100.0 in 1926 to 118.2 in 1930. Additional information and details by provinces will be found on pp. 192-201 of the Bureau of Statistics' Annual Report on Prices and Price Indexes, 1913-30.

Hospital Charges.—In view of discussions of the increased cost entailed by illness and hospital treatment, special investigations on hospital charges are now made annually and the results are given as Dominion averages in the following table. In general, this shows that hospital charges have increased over 90 p.c. since 1913, except for operating room charges, which have increased only about 60 p.c. At the same time, the cost of maintaining patients in hospitals has increased by about 111 p.c. Since the general cost of living in Canada has increased only from 50 to 60 p.c., it may be inferred that patients in hospitals have an improved standard of living and of comfort as compared with the conditions before the war.

The detailed results of this investigation, including the statistics by provinces, are to be found on pp. 203-6 of the Bureau of Statistics' Annual Report on Prices and Price Indexes, 1913-29.

14.—Average Daily Hospital Charges in Canada and Index Numbers thereof, 1913 and 1917-30.

(1913=100 for Index Numbers.)

Item.	1913.	1917.	1918.	1919.	1920.	1921.
Public Ward..... \$.99	1.19	1.32	1.47	1.54	1.67
Index Number.....	100.0	119.4	134.8	149.7	156.0	170.5
Semi-private Rooms..... \$	1.57	1.79	2.03	2.27	2.44	2.63
Index Number.....	100.0	114.7	130.9	145.8	156.3	168.6
Private Rooms..... \$	2.68	3.00	3.23	3.68	4.05	4.45
Index Number.....	100.0	111.8	120.8	138.2	151.4	167.4
Operating Room..... \$	5.16	5.53	5.94	6.71	7.00	7.15
Index Number.....	100.0	107.4	115.4	130.8	137.0	140.1
Cost of Maintenance per head..... \$	1.68	2.14	2.47	2.72	3.08	3.22
Index Number.....	100.0	128.8	148.8	163.7	187.2	195.6

Item.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
Public Ward..... \$	1.71	1.73	1.77	1.78	1.83	1.86	1.96	2.03	2.04
Index Number.....	176.6	180.9	182.8	184.4	184.4	186.1	197.9	203.9	204.4
Semi-private Rooms.. \$	2.69	2.73	2.74	2.84	2.82	2.83	2.85	2.87	2.89
Index Number.....	173.1	175.6	176.1	182.2	185.2	186.3	187.8	189.1	190.4
Private Rooms..... \$	4.49	4.52	4.58	4.92	5.07	5.14	5.25	5.23	5.24
Index Number.....	169.1	170.3	172.3	185.9	188.5	191.1	195.3	194.5	194.9
Operating Room..... \$	7.24	7.64	7.87	7.97	8.17	8.31	8.36	8.37	8.36
Index Number.....	141.8	148.9	153.0	155.1	156.7	159.1	160.1	160.3	160.1
Cost of Maintenance per head..... \$	3.12	3.17	3.25	3.26	3.48	3.45	3.49	3.62	3.63
Index Number.....	189.7	192.5	197.1	198.3	201.9	199.7	202.3	210.4	211.2

Section 5.—Index Numbers of Interest Rates.

Few economic statistics are of more significance than the net rates of interest paid on absolutely the safest securities, such as government bonds maturing on a fixed and definite date. Other interest rates naturally grade upward from the rates which the safest of possible borrowers has to pay, and from the fluctuations of that price an idea may be obtained as to the relation between the supply of, and the demand for, funds for investment.

Prior to the war the funded debt of the Dominion was entirely held outside the country, there being no home market for Canadian Government bonds. Since about the beginning of the century, however, the province of Ontario, the wealthiest and most populous of the provinces of the Dominion, has done its financing largely in Canada itself, and the fluctuation in the rate of yield of Province of Ontario bonds is thus the best long-term indicator of net interest rates in the Dominion. These yields, compiled originally by Wood, Gundy and Co., of Toronto, and furnished by that firm to the Bureau of Statistics, have been recalculated as index numbers on a 1926 base and are shown in Table 15, a particularly interesting feature being the decline in the interest rates index from the high point of 129.4 in October 1920 to 87.7 in February of 1928. Since the latter date, the scarcity of funds for this type of investment forced the index number up to 104.4 in May and September 1929, from which point it gradually declined to 92.9 in September 1930. In January and February 1931 it had risen to 95.0 but in March and April it declined to 92.9 and in May to 91.9. In the fall months considerable demand upon the available supply of long term funds again sent the index up sharply to a peak of 119.8 in January, 1932, which was the highest point reached since October 1921. In the next few months, somewhat easier conditions prevailed, as indicated by the March, 1932, number of 110.6.

15.—Index Numbers of Interest Rates in Canada, Calculated from Yields of Ontario Bonds, 1900-32.

(Base 1926=100.)

Month.	1900.	1901.	1902.	1903.	1904.	1905.	1906.
January.....	73.1	77.9	79.3	78.5	78.5	78.5	76.2
April.....	74.1	78.5	79.3	78.5	78.5	75.2	76.2
June.....	75.2	78.7	79.3	78.5	79.3	74.1	76.2
October.....	77.2	78.7	79.3	78.5	79.3	75.2	76.8
December.....	77.7	79.3	78.5	78.5	78.3	76.2	77.2
	1907.	1908.	1909.	1910.	1911.	1912.	1913.
January.....	78.3	88.7	82.5	81.4	83.5	83.5	88.7
April.....	81.4	87.7	81.4	82.5	81.0	85.6	89.8
June.....	85.6	86.6	80.4	82.5	81.0	86.6	90.8
October.....	87.7	85.6	80.4	82.5	81.4	87.7	91.9
December.....	88.7	83.5	81.4	83.5	83.5	88.7	91.9
	1914.	1915.	1916.	1917.	1918.	1919.	1920.
January.....	91.9	88.7	109.6	100.2	125.3	121.1	120.0
April.....	90.8	91.9	110.6	109.6	125.3	116.9	121.1
June.....	88.7	93.9	109.6	114.8	126.3	112.7	125.3
October.....	88.7	104.4	104.4	123.2	125.3	116.9	129.4
December.....	88.7	109.6	102.3	125.3	125.3	120.0	128.4

Month.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.
January.....	125.3	116.9	112.7	106.5	99.2	100.2	97.1	89.8	97.1	102.3	95.0	119.8
February.....	125.3	114.8	110.6	106.1	100.2	100.2	97.1	87.7	98.1	102.3	95.0	115.9
March.....	125.3	113.8	109.6	106.1	100.2	100.2	96.0	88.7	101.3	101.3	92.9	110.6
April.....	125.3	112.7	107.5	106.1	100.2	100.2	95.2	88.7	103.3	101.3	92.9	111.3
May.....	126.3	112.7	107.5	106.1	99.2	100.2	95.0	90.8	104.4	101.3	91.9	-
June.....	126.3	112.7	107.5	105.8	99.2	100.2	95.0	91.9	103.3	100.8	91.9	-
July.....	128.4	112.7	107.5	103.5	99.2	100.2	95.0	93.9	103.3	100.2	92.9	-
August.....	128.4	112.7	107.5	99.2	99.2	100.2	95.0	96.0	102.3	96.0	91.9	-
September.....	127.3	111.7	107.5	99.2	99.2	100.2	95.0	96.0	104.4	92.9	97.4	-
October.....	126.3	111.7	107.9	100.2	100.2	100.2	93.9	95.0	103.3	93.9	103.3	-
November.....	119.4	112.7	107.3	99.2	100.2	99.2	93.3	95.0	103.3	93.9	105.4	-
December.....	119.4	113.2	107.3	99.2	100.2	99.2	90.8	96.0	102.3	93.9	108.6	-

Section 6.—Index Numbers of Import and Export Valuations.

Index numbers of imports and export valuations have been computed by the Dominion Bureau of Statistics since 1920 and are shown in Table 16 for the years 1922-31. Fifty export and 60 import commodities are included in the calculations. The year 1913 has been taken as the base. Index numbers were calculated on the aggregative principle and both an individual and a group system of weighting has been used on the basis of quantities imported or exported.¹

¹For list of commodities included see Appendix A of "Prices and Price Indexes, 1913-1926".

16.—Index Numbers of Export and Import Valuations, calendar years 1921-30.

(1913=100.)

EXPORTS.

Group.	Number of Items.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
Vegetables and Their Products.....	14	129.3	122.2	133.1	155.2	150.9	143.5	132.1	130.1	99.9	73.6
Animals and Their Products.....	11	136.2	142.0	136.3	155.1	148.0	160.3	155.7	155.7	145.9	118.3
Fibres, Textiles and Textile Products.....	2	117.1	134.2	161.1	165.8	140.3	126.7	143.7	126.0	89.4	68.0
Wood, Wood Products and Paper.....	8	168.3	178.0	173.3	167.9	162.4	158.5	156.4	153.9	142.2	125.7
Iron and Its Products.....	4	107.9	90.8	88.3	83.8	82.9	92.0	81.0	82.9	80.5	79.3
Non-Ferrous Metals and Their Products.....	6	123.6	121.2	123.3	132.9	129.4	120.0	121.1	126.6	109.4	88.5
Non-Metallic Minerals and Their Products.....	2	189.2	190.1	181.1	169.9	172.8	173.3	172.8	177.0	164.0	155.9
Chemicals and Allied Products.....	3	117.0	118.2	109.0	109.6	107.6	97.0	87.4	85.5	83.7	76.6
Totals, Exports.....	50	137.8	136.8	139.6	151.7	147.0	144.0	137.6	136.9	116.8	95.2

IMPORTS.

Vegetables and Their Products.....	15	131.8	174.4	167.2	154.8	149.6	153.3	144.4	130.6	117.0	100.9
Animals and Their Products.....	3	85.3	87.3	78.9	93.6	86.9	95.0	119.2	94.9	75.1	58.0
Fibres, Textiles and Textile Products.....	15	156.5	182.4	181.7	184.0	158.0	143.7	153.8	147.1	123.0	86.0
Wood, Wood Products and Paper.....	3	161.3	178.2	167.0	175.6	164.7	141.7	142.1	150.9	144.8	117.9
Iron and Its Products.....	11	103.5	108.8	107.4	98.6	95.0	95.0	93.6	95.7	99.4	92.6
Non-Ferrous Metals and Their Products.....	3	89.2	91.8	92.0	100.6	107.4	106.7	103.7	115.4	133.4	97.2
Non-Metallic Minerals and Their Products.....	7	181.6	162.2	145.4	143.9	141.7	130.1	124.8	123.6	117.2	100.6
Chemicals and Allied Products.....	3	164.3	143.7	146.9	140.3	148.7	148.2	138.6	134.3	154.5	151.7
Totals, Imports.....	60	135.0	147.6	142.0	139.6	131.7	127.0	127.3	122.9	115.1	95.3
Combined Indexes.....	-	136.5	141.7	140.7	146.3	140.1	136.3	133.0	130.6	116.0	95.2

CHAPTER XXI.—PUBLIC FINANCE.

The following treatment of public finance includes a discussion of Dominion, provincial and municipal finance in Canada, supported by the necessary detailed statistics, and closes with a brief discussion of the national wealth and national income of the Dominion as the basis of all public finance.

In recent years the subject of public finance has been more elaborately treated than formerly, in response to an increasing public demand resulting from the growing pressure of taxation to meet the augmented expenditures of the national, provincial and local administrations. In the consideration of these growing expenditures two facts must be kept in mind: (1) that our country is showing a relatively rapid growth of population—22 p.c. in the 10 years from 1911 to 1921 and 18·04 p.c. in the most recent decade 1921 to 1931—and (2) that \$1.40 in 1931 had approximately the same retail purchasing power as \$1 in 1913. Furthermore, since most of our citizens are producers, the effect of this latter fact in swelling the aggregated total money income of the citizens of Canada so as to increase their tax-paying power should not be forgotten. In addition, there is an evident increase in the functions of government.

The great increase in Dominion expenditure since 1913 has, of course, been mainly due to the war and the burden of interest, pension charges, soldiers' civil re-establishment, etc., resulting from the war. Similar increases have also taken place during the same period in provincial and municipal expenditures. Thus in their fiscal years ended 1930 the total ordinary expenditure of the nine Provincial Governments was \$185,108,139, as compared with \$53,826,219 in 1916, only 14 years before, an increase of almost 244 p.c. (The aggregate interest payments of Provincial Governments rose from \$7,817,844 in 1916 to \$41,207,090 in 1929.) Again, between 1913 and 1930, the aggregate taxes imposed by the municipalities of Ontario increased from \$34,231,214 to \$122,730,972—an increase of 258·5 p.c. In Quebec the ordinary receipts of municipalities increased from \$20,771,300 in 1914 to \$63,637,511 in 1930, an increase of 206·4 p.c. In Manitoba the increase in municipal taxation has been from \$9,922,537 in 1912 to \$19,322,697 in 1930, an increase of 94·7 p.c. In Saskatchewan the grand total of municipal tax levies was \$13,358,627 in 1914 and \$29,609,893 in 1930. In Alberta the municipal taxes levied amounted to \$9,791,846 in 1914 and to \$13,886,677 in 1929. In British Columbia the taxes collected by the municipalities totalled \$8,698,820 in 1914 and \$17,748,816 in 1930. Finally, in the extreme east the aggregate tax receipts of the municipalities of Nova Scotia were \$6,472,561 in 1930, as compared with \$3,389,625 as recently as 1919, an increase of 91 p.c. in the last eleven years. The seven provinces covered by these statistics contained in 1931 approximately 95 p.c. of the population of the Dominion.

Section 1.—Dominion Public Finance.¹

Historical Sketch.—Both under the French *régime* and in the earlier part of the British, the territorial or casual revenues of Canada, consisting of certain

¹ The statistics in this section have been made up from the Public Accounts, with the exception of those parts dealing with recent modifications in taxation and war tax revenue, which were revised by the Department of National Revenue.

seigniorial dues and the proceeds of the sale of government timber and land, were reserved to the Crown, while the right of levying taxes and of regulating the trade and commerce of the colony was, after 1763, deemed to be vested in the British Parliament.

By the Quebec Act of 1774, certain duties on spirits and molasses were imposed to be expended by the Crown in order to provide a revenue "towards defraying the expenses of the administration of justice and the support of the civil government of the province". A little later, in 1778, the British Government, by the Declaratory Act (18 Geo. III, c. 12), renounced forever the right of taxing the colonies to provide Imperial revenue, but maintained its claim to impose duties considered necessary for the regulation of trade, the proceeds to go towards defraying the expenditures of the colonial administration. After the Constitutional Act of 1791, the customs duties remained under the control of the Imperial Government, their revenue, as well as the territorial revenue above mentioned, coming in to the executive administration independently of the Legislative Assembly and thus making the executive power largely independent of the Legislature. In case these revenues proved insufficient, recourse could generally be had to the grant made by the Imperial Government for the support of the army. As time went on, however, the Crown revenues became more and more inadequate to meet the increasing expenditure, while the wave of economy in Great Britain after 1815 made it impossible any longer to supplement these revenues from military sources. On the other hand, the purely provincial revenues collected under the authorization of the Provincial Legislature showed an increasing surplus. The power of the purse thus began to pass into the hands of the Legislatures; further, in 1831 the British Parliament passed an Act placing the customs duties at the disposal of the Legislatures.

Under the Act of Union a consolidated revenue fund was established. All appropriation bills were required to originate in the Legislative Assembly, which was forbidden to pass any vote, resolution or bill involving the expenditure of public money unless the same had first been recommended by a written message of the Governor General. The British Government surrendered all control of the hereditary or casual revenues, which were thenceforth paid into the treasury of the province to be disposed of as its Legislature should direct.

At the interprovincial conferences which took place prior to Confederation, it was decided that the new Dominion Government, which was to take over permanently, as its chief source of revenue, the customs and excise duties that had yielded the greater part of the revenues of the separate provinces (direct taxation being as unpopular in British North America as in other new countries), was also to assume the provincial debts and to provide out of Dominion revenues definite cash subsidies for the support of the Provincial Governments. (See Tables 16 and 17.) Until the Great War, which made other taxes necessary, the customs and excise revenue constituted the chief resource of the Dominion Government for general purposes—the Post Office revenue and the Government railway receipts, which are not taxes at all, being mainly or entirely absorbed by the expenses of administering these services. Indeed, for many years preceding the war, customs and excise duties, together with the revenue from the head tax on Chinese immigrants, were the only items of receipts which were classified as taxes by the Department of Finance. In the last pre-war fiscal year these two items aggregated \$126,143,275 out of total receipts on consolidated fund account amounting to \$163,174,395, the Post Office and Government railways furnishing between them \$26,348,847 of the remainder, offset, however, by expenditures on these two services amounting to

\$27,757,196. Miscellaneous revenue, largely fees, amounted in that year to \$10,-682,273—a comparatively small fraction of the total. As both customs and excise taxes were indirect, the average Canadian felt but little the pressure of taxation for Dominion purposes.

The war enormously increased the expenditure, and this increase had in the main to be met by loans. It is, however, a cardinal maxim of public finance that, where loans are contracted, sufficient new taxation should be imposed to meet the interest charge upon the loans and to provide a sinking fund for their ultimate extinction. This war taxation was begun in Canada within the first weeks of the war, when in the short war session of August, 1914, increases were made in the customs and excise duties on various commodities, including coffee, sugar, spirituous liquors and tobacco. In 1915, special additional duties of 5 p.c. *ad valorem* were imposed on commodities imported under the British preferential tariff and 7½ p.c. *ad valorem* on commodities imported under the intermediate and general tariffs, certain commodities being excepted. New internal taxes were also imposed on bank circulation, on the income of trust and loan companies, on insurance in other than life and marine companies, on telegrams and cablegrams, railway tickets, sleeping-car berths, etc., also on cheques, postal notes, money orders, letters and post cards. In the following year, the business profits war tax (dropped in 1921)¹ was introduced, and in 1917 an income tax was imposed. In 1918 both of these taxes were increased and their application widened, and in 1919 the income tax was again increased, and still further augmented in 1920 by a surtax of 5 p.c. of the tax on incomes of \$5,000 and over; the sales tax was also introduced in that year. The cumulative result of these war taxes was that, in the fiscal year ended Mar. 31, 1921, customs duties were for the first time displaced from their position as the chief factor in Canadian revenue, the war taxes yielding \$168,385,327, as against the customs yield of \$163,266,804. In 1922 war taxes yielded \$177,484,161, while the yield of the customs fell to \$105,686,645. Again, in 1923 the war taxes yielded \$181,634,875 and customs duties \$118,056,469, in 1924 \$182,036,261 and \$121,500,798, in 1925 \$147,164,158 and \$108,146,871, in 1926 \$157,296,321 and \$127,355,144, in 1927 \$156,167,434 and \$141,968,678. In 1928, however, the customs duties yielded \$156,985,818 as against \$150,319,087 collected by the war taxes, in 1929 \$187,206,332 as against \$145,029,742, in 1930 \$179,429,920 as against \$134,086,005 and in 1931 \$131,208,955 as against \$107,320,633 collected by war taxes.

A more detailed sketch of the new taxation imposed during the war period from 1914 to 1921 will be found at pp. 755-757 of the 1926 Year Book. An outline of the chief changes in taxation between 1922 and 1925 will be found at pp. 807-809 of the 1927-28 Year Book.

Recent Modifications in the System of Taxation.²—In the session of 1926 various changes were made in the customs tariff by c. 7. Green coffee, spices, nutmegs, mace, arrowroot and sponges were made free under the British preferential tariff, and the preferential rate on pineapples in air-tight cans was reduced from 1½ c. to ½ c. per lb. The duties on raw sugar imported for refining were also materially reduced under all tariffs, but so as to increase the British preference. Again, the duties on automobiles were substantially reduced under all tariffs, the rate on the cheaper types of automobiles imported under the general tariff being

¹ Belated revenue from this tax has been collected in subsequent fiscal years down to 1931 (see Table 8, p. 716).

² For modifications in taxation in the years 1922 to 1925, see 1927-28 Year Book, pp. 807-809.

reduced from 35 to 20 p.c., and under the British preferential tariff from 22½ to 12½ p.c. Finally, tin plate was made free under the preferential tariff and reduced from 12½ to 5 p.c. under the general tariff. By c. 10, amending the Income War Tax Act of 1917, the exemption limit was raised from \$2,000 to \$3,000 in the case of married persons or those with dependants, and from \$1,000 to \$1,500 in the case of other persons. The rates of taxation were also reduced all along the line, those with incomes of \$5,000 or less paying only 2 p.c., instead of 4 p.c. or more of the taxable income, the income tax of a married person without dependants being reduced from \$619.50 to \$290 on an income of \$10,000 and from \$3,024 to \$2,530 on an income of \$25,000. The rate of taxation of corporate incomes was reduced from 10 to 9 p.c. The budget speech also announced the abolition of the tax on receipts and the restoration of penny postage, both as from July 1, 1926.

In the session of 1927 the general rate of the sales tax was reduced from 5 to 4 p.c. The rate of the graduated income war tax was also reduced by 10 p.c., so that each taxpayer paid only 90 p.c. of what he would have paid on the same income in the preceding year. The \$500 exemption for children was extended to include those under 21 (instead of 18) years of age dependent upon the taxpayer for support. Further, the tax on cheques, money orders, notes, etc., which had previously been graduated from a minimum of 2 cts. on cheques of from \$5 to \$50 to a maximum of \$1 on cheques of \$2,500 and over, was reduced to a flat 2 cts. on all cheques of \$10 and over. The excise tax on matches was also reduced by 25 p.c. No changes were made in the tariff in 1927, as the new Advisory Board on Tariff and Taxation, to which certain matters had been referred, was only in the initial stages of its investigations.

In 1928 the general rate of the sales tax was reduced from 4 to 3 p.c. The rate of the graduated income war tax on individuals was reduced by a further 10 p.c. of the 1926 tax, so that an individual paid only 80 p.c. of what he would have paid on the same income two years before. Similarly, the rate of taxation on the income of corporations and joint stock companies, which had been 10 p.c. two years before and 9 p.c. in 1927, was reduced to 8 p.c. on incomes in excess of \$2,000. The \$500 exemption for children was further extended to include this exemption for sons and daughters over 21 dependent upon the taxpayer for support on account of mental or physical infirmity. The customs tariff was also amended in the direction of reducing the duties upon machinery and other commodities used in production in the mining and fishing industries, on onion plants for propagation also on disinfecting and spraying preparations in the fruit and horticultural industries, and on press blankets used in the printing and publishing industry. In the textile industries reductions were very generally made on cotton, woollen and other yarns used by manufacturers as the material for further production, also on many finished cotton, woollen, linen, flax, jute, silk and artificial silk products. Also the duty on many types of machinery used in the textile industry was generally reduced or even taken off entirely under the British preferential tariff. For details of these very numerous changes, see c. 17 of the 1928 Statutes.

In 1929 the general rate of sales tax was reduced from 3 p.c. to 2 p.c. The taxes on certain insurance premiums, on cables and telegrams, and on railway and other tickets were also repealed. The tax on sales or transfers of stocks was so modified as to be levied on the actual value rather than the par value of shares transferred; further, instead of a tax of 3 cents being levied for every \$100 par value of shares transferred, the tax was made to vary from one-tenth of a cent per

are, where shares are sold at 50 cents each or less, to four cents, where they are sold at over \$100 each. A number of changes were made in the Customs Tariff by c. 39 of the 1929 Statutes.

In 1930, the general rate of the sales tax was reduced from 2 to 1 p.c. *Bona fide* co-operative organizations, government or like annuities (to the extent of \$5,000), and donations to churches, schools and hospitals (to a maximum of 10 p.c. of the net income of the taxpayer) were exempted from income tax, and the \$500 exemption for children was extended to cover certain dependent relatives suffering from mental or physical infirmity. In the customs tariff, the iron and steel schedules were completely revised, seasonal tariffs were adopted in respect of fruits and vegetables, duties were reduced on tea, porcelain and chinaware and meats and increased on beans and butter, and so-called countervailing duties were imposed in respect of 16 commodities. The year was unusual in that it saw a second tariff revision, namely, that of the special session of September, when the anti-dumping clauses of the tariff were re-written and very many changes were made in rates of duty in the schedules. Increases were made *inter alia* on most agricultural products, on printed matter and manufactures of paper, on numerous commodities in the iron and steel group, on a wide range of textile items and on boots and shoes. Power was granted to the Governor in Council to prohibit the importation into Canada of goods exported from the Dominion from any country not a contracting party to the Treaty of Versailles.

In 1931, the general rate of the sales tax was increased from 1 to 4 p.c. Tax exemption for cheques, receipts for money paid by banks, money orders, travellers' cheques and Post Office money orders was reduced from over \$10 to over \$5 and postage stamps could be used on these documents in lieu of Excise Tax stamps. A special excise tax of 1 p.c. was imposed on importations. As regards the customs tariff, the 1931 session saw several further amendments of the administrative clauses of the tariff, the powers of the Governor in Council in the matter of the making of tariffs being widened to include the granting and withdrawing of rates more favourable than those of the British preferential tariff. Provision was made for penalty in the case of any person guilty of using the tariff to increase prices to consumers. Rates were altered on many items, the countervailing duties having been rescinded in entirety at the special session in September, 1930. Increases were made on fresh and canned meats, tea, field and garden seeds, prepared foods, paint cans, wallboards, spray mixtures, building stone and granite, steel plate, motor vehicles, wood veneers, various textiles, coal and coke, leather and leather goods, and numerous other commodities. The importation of second-hand motor vehicles, except under specified exceptional circumstances, was prohibited.

Subsection 1.—The Current Balance Sheet of the Dominion.

A summary review of the current financial situation of the Dominion as at Mar. 31, 1931, is given in the balance sheet shown in Table 1. This shows the gross debt on the above date to have been \$2,610,265,698, partly offset by available assets aggregating \$348,653,762, leaving a net debt of \$2,261,611,936.¹ Non-available assets, including such public works as canals and railways, also loans on railways, amounted in the aggregate to \$1,689,111,166, leaving a debit balance on the Consolidated Fund Account on Mar. 31, 1931, of \$572,500,770. The details of the various assets and liabilities are contained in the schedules accompanying the balance sheet and printed in the Public Accounts.

¹ The net debt on Mar. 31, 1924, was \$2,417,783,275; on Mar. 31, 1925, \$2,417,437,686; on Mar. 31, 1926, \$2,389,731,099; on Mar. 31, 1927, \$2,347,834,370; on Mar. 31, 1928, \$2,296,850,233; on Mar. 31, 1929, \$2,225,3705 and on Mar. 31, 1930, \$2,177,763,959. See Table 18, p. 725.

1.—Balance Sheet of the Dominion of Canada, as at Mar. 31, 1931.

(From the Public Accounts.)

ACTIVE ASSETS—

Cash on hand and in banks.....	\$	44,599,48
Specie reserve.....		81,457,81
Advances to provinces, banks, etc.....		111,454,01
Advances to foreign Governments.....		30,609,71
Soldier and general land settlement loans.....		48,150,91
Miscellaneous current accounts.....		32,381,11
Total Active Assets.....	\$	348,653,71
Balance of Liabilities over Active Assets being Net Debt, Mar. 31, 1931 (exclusive of interest accrued and outstanding carried forward).....		2,261,611,91
	\$	2,610,265,31

NON-ACTIVE ASSETS—

Public Works, canals.....	\$	233,778,71
Public Works, railways.....		435,691,21
Public Works, miscellaneous.....		235,898,71
Military property and stores.....		12,035,41
Territorial accounts.....		9,895,11
Railway accounts (old).....		88,398,81
Railway accounts (loans non-active).....		614,406,21
Canadian National Steamships (loans non-active).....		15,550,71
Miscellaneous investments and other accounts (non-active).....		43,455,21
Balance Consolidated Fund as at Mar. 31, 1930.....		521,320,81
Excess of expenditure over, revenue year ended Mar. 31, 1931.....		51,179,81
	\$	2,261,611,91

LIABILITIES—

Dominion notes in circulation.....	\$	141,066,21
Bank Note Circulation Redemption Fund.....		6,788,11
Post Office account, money orders, postal notes, etc., outstanding.....		4,135,21
Post Office Savings Bank deposits.....		24,750,21
Insurance and superannuation funds.....		80,256,21
Trust funds.....		20,329,71
Contingent and special funds.....		1,215,11
Province accounts.....		9,623,11
Funded Debt.....		2,319,672,61
Interest due and outstanding.....		2,427,11
	\$	2,610,265,31

NOTE.—The Dominion of Canada is also responsible for principal and interest on loans negotiated on railways, under various Acts of Parliament, amounting to \$707,474,852. (See p. 727 for details.)

Subsection 2.—Receipts and Disbursements.

The receipts of the Dominion Government on Consolidated Fund Account for the fiscal year ended Mar. 31, 1931, were \$349,587,299, a decrease of \$91,824,51 as compared with the preceding year; besides these, special receipts amounted to \$6,573,577—a total of \$356,160,876 (Table 2). The regular expenditure on Consolidated Fund Account was \$389,558,289, while special expenditure amounted to \$16,740,848. There was also a net expenditure on capital account of \$28,222,31 and other expenditures of \$5,487,399, including Government Merchant Marine \$1,826,942, advances to Quebec Harbour Commissioners (non-active) \$3,491,01. Thus the total disbursements, inclusive of these and other advances, amounted to \$140,008,855. There was an increase of \$83,847,978 in the net debt (gross debt less available assets) during the year. (See Table 22.)

Detailed statistics of receipts and disbursements are contained in Tables 2 and 3. Tables 4 and 5 are historical tables giving the figures of the main items of Dominion receipts and expenditure since Confederation, while Table 6 shows the per capita receipts and expenditure for these years, calculated on census and estimated populations.

2.—Details of Revenue Receipts, fiscal years ended Mar. 31, 1927-31.

Item.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Consolidated Fund Receipts—					
Taxation—					
Customs.....	141,968,678	156,985,818	187,206,332	179,429,920	131,208,955
Excise.....	48,513,160	57,400,898	63,684,954	65,035,701	57,746,808
War Tax Revenue—					
Banks.....	1,174,665	1,224,645	1,242,399	1,408,420	1,429,264
Trust and loan companies.....	335,368	345,430	7,641	—	6
Insurance companies.....	947,830	999,003	894,864	74,416	74,250
Business profits.....	710,102	956,031	455,232	173,300	34,430
Income tax.....	47,386,309	56,571,047	59,422,323	69,020,726	71,048,022
Sales tax, tax on cheques, transport- ation tax, etc.....	105,613,160	90,222,931	83,007,283	63,409,143	34,734,661
Totals, Receipts from Taxation.....	346,649,272	364,705,803	395,921,028	378,551,626	296,276,396
Non-Tax Revenue—					
Canada Gazette.....	68,312	81,243	80,214	93,890	71,197
Canals.....	961,684	1,355,677	1,230,332	1,043,647	1,026,671
Casual.....	3,302,484	3,614,066	4,030,326	4,291,162	3,669,217
Chinese revenue.....	13,228	14,179	18,224	14,345	21,966
Dominion Lands.....	3,327,273	3,688,595	4,070,339	4,139,104	1,635,401
Electric light inspection.....	538,917	563,913	563,964	546,957	632,151
Fines and forfeitures.....	504,309	568,140	655,485	748,343	433,716
Fisheries.....	175,213	119,144	109,300	110,724	73,937
Gas inspection.....	76,880	85,716	92,398	100,763	94,255
Inspection of staples (Grain Act).....	2,582,984	2,677,877	2,992,541	2,047,207	2,179,047
Insurance inspection.....	120,334	123,768	131,626	138,780	148,942
Interest on investments.....	8,559,401	10,937,822	12,227,562	13,518,205	10,421,224
Law stamps.....	8,152	12,170	10,769	9,548	9,270
Mariners' Fund.....	195,080	222,048	236,808	209,322	201,768
Military College.....	18,239	20,232	20,204	19,820	19,882
Military pension revenue.....	128,386	128,017	155,830	158,881	159,000
Ordnance Lands.....	29,702	14,206	24,830	30,277	29,384
Patent fees.....	517,930	495,792	530,239	574,918	559,646
Penitentiaries.....	170,338	177,933	178,449	181,024	183,288
Post Office.....	29,069,169	31,562,580	30,611,964	33,345,385	30,212,326
Premium, discount and exchange....	649,337	594,211	568,846	531,366	521,087
Public Works.....	539,941	453,084	459,963	461,432	417,059
Royal N.W.M.P. Officers' pensions...	8,769	6,144	6,373	6,471	6,357
Steamboat inspection.....	135,131	127,852	136,932	131,356	144,332
Superannuation fund.....	392	172	81	5	—
Weights and Measures.....	333,034	361,690	399,247	407,248	419,750
Other revenues.....	11,875	5,909	—	—	—
Totals, Consolidated Fund Receipts	398,695,776	422,717,983	455,463,874	441,411,806	349,587,299
Special Receipts—					
Miscellaneous revenue.....	1,756,704	6,924,594	4,687,607	4,505,186	6,573,577
Totals, Receipts.....	400,452,480	429,642,577	460,151,481	445,916,992	356,160,876

3.—Details of Expenditure, fiscal years ended Mar. 31, 1927-31.

NOTE.—“Adulteration of food”, “Marine hospitals” and “Quarantine” have been classified in the public accounts of 1927-31 under the heading “Health”, but are here deducted, so as not to break the comparability of the figures with those of earlier years.

Item.	1927.	1928.	1929.	1930.	1931.
Consolidated Fund Expenditure—	\$	\$	\$	\$	\$
Charges on Debt—					
Charges of management.....	963,252	884,532	923,363	1,015,766	920,134
Interest on debt.....	129,675,367	128,902,945	124,989,950	121,566,213	121,289,341
Premium, discount and exchange....	24,013	42,233	67,254	72,976	19,471
Totals, Charges on Debt.....	130,662,632	129,829,710	125,980,567	122,654,955	122,229,445
Adulteration of food.....	105,800	120,800	130,000	156,567	147,516
Administration of justice.....	2,201,141	2,190,810	2,203,209	2,198,909	2,214,200
Air Board.....	2,197,645	3,891,861	5,040,505	5,920,670	7,147,000
Agriculture.....	5,838,941	6,487,766	7,201,566	9,286,746	9,143,900
Bounties.....	164,791	82,807	79,290	40,030	92,110
Civil Government.....	10,865,757	11,576,140	11,819,981	12,258,009	12,628,333
Customs and Excise.....	10,130,430	11,801,331	12,876,760	13,130,611	13,206,441
Department of Mines.....	558,695	624,184	679,179	805,748	789,333
Dominion Lands.....	4,251,663	4,082,752	4,986,962	5,479,835	4,970,000
Fisheries.....	1,437,179	1,751,147	1,974,118	2,274,294	2,261,800
Government of N.W. Territories.....	371,320	392,378	456,440	574,950	763,100
Health.....	207,578	260,804	384,003	401,155	378,600
Immigration.....	2,338,992	2,704,698	2,631,967	2,757,331	2,255,200
Indians.....	3,869,394	4,199,541	4,598,292	5,134,553	5,866,200
Labour.....	1,452,415	1,411,027	2,349,671	2,366,399	6,559,100
Legislation.....	4,543,798	2,041,192	2,326,462	2,318,925	4,662,100
Lighthouse and Coast Service.....	2,463,558	2,771,031	2,812,900	2,874,623	3,391,100
Mail subsidies and steamship subventions.....	1,008,999	844,591	1,026,375	1,083,436	1,322,100
Marine hospitals.....	189,924	189,970	210,000	253,649	209,100
Militia.....	9,141,220	10,151,975	11,044,334	11,032,749	10,952,100
Miscellaneous.....	5,013,578	6,501,410	7,207,046	5,281,928	5,469,100
Naval Service.....	1,597,407	1,702,225	1,836,488	3,013,396	3,597,100
Ocean and River Service.....	2,566,730	3,749,105	3,683,256	5,136,332	3,638,100
Penitentiaries.....	1,685,556	1,755,763	1,807,655	2,561,115	3,236,100
Pensions.....	37,902,939	39,778,130	41,487,323	40,406,565	45,965,100
Post Office.....	31,007,698	31,782,968	33,483,059	35,036,629	36,292,100
Public Works.....	918,580	942,544	939,985	924,110	936,100
Railways and Canals (Collection).....	2,152,015	2,535,361	2,405,272	2,459,990	2,911,100
Public Works income.....	11,178,054	14,037,366	17,003,254	18,134,359	23,763,100

3.—Details of Expenditure, fiscal years ended Mar. 31, 1927-31—concluded.

Item.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Quarantine.....	191,917	199,861	200,000	210,000	208,226
Railways and Canals, income.....	1,581,688	5,838,145	8,297,914	8,680,901	11,527,017
Royal Canadian Mounted Police.....	2,097,887	2,300,439	2,600,525	2,901,817	2,954,587
Scientific institutions.....	960,233	1,004,195	1,081,502	1,133,221	1,184,674
Soldiers' Civil Re-Establishment.....	6,976,762	6,958,811	7,901,957	8,494,277	9,774,357
Soldiers' Land Settlement.....	1,250,787	1,334,008	1,441,951	1,362,122	1,300,328
Steamboat inspection.....	121,961	131,065	141,485	140,253	143,764
Subsidies to provinces.....	12,516,740	12,516,740	12,553,725	12,496,958	17,435,736
Superannuation No. 1.....	677,692	625,005	577,661	531,253	490,442
Superannuation No. 3.....	20,789	19,038	17,792	15,930	14,412
Superannuation No. 4.....	770,121	723,825	671,611	631,293	592,846
Civil Service Widows' Annuities Act, 1927.....	—	130,946	140,570	142,708	140,167
Trade and Commerce.....	3,692,148	3,517,492	3,945,530	4,325,616	6,003,106
Weights and Measures, etc.....	475,899	498,493	530,601	568,503	583,076
Yukon Territory.....	189,120	178,511	184,181	186,374	201,451
Other.....	—	—	—	—	—
Totals, Ordinary Expenditure.....	319,548,173	336,167,961	350,952,924	357,779,794	389,558,289
Special Expenditure—					
War and demobilization.....	64,485 ¹	1,656,011 ¹	—669,399 ¹	59,792 ¹	61,889 ¹
Cost of loan flotations.....	3,278,032	13,057	11,330	17,071	193,338
Other charges.....	4,537,945 ²	1,692,254 ²	2,055,823 ²	9,726,949 ²	16,485,621 ^{2,3}
Totals, Special Expenditure.....	7,880,462	3,361,322	1,397,754	9,803,722	16,740,848
Capital Expenditure².....	19,558,703	20,635,648	22,809,275	22,561,144	28,222,318
Loans and Advances, Non-Active—					
Advances to railways (non-active).....	10,000,000	—	—	2,932,653	—
Advances to Canadian Government Merchant Marine, Ltd.....	426,817	999,837	758,000	2,491,297	1,826,942
Advances to Quebec Harbour Com- missioners (non-active).....	680,000	1,458,000	2,888,000	2,821,000	3,491,000
Miscellaneous debits and credits re sun- dry non-active assets accounts.....	462,596	16,035,672 ³	10,000,000 ⁴	—213,364	169,458
Grand Totals, Expenditure.....	358,556,751	378,658,440	388,805,953	398,176,246	440,008,855

¹Expenditure on adjustment of war claims, \$319,210 less receipts \$127,817 on war and demobilization account in 1927, \$1,860,985 less \$204,974 in 1928, less \$669,399 in 1929, \$94,996 less \$35,294 in 1930 and \$110,371 less \$48,482 in 1931.

²Net figure; includes large expenditures on Welland Ship Canal. See p. 580.

³Includes \$13,935,673 to provide for revaluation and losses on account of Soldier Land Settlement loans; \$2,000,000 on account of seed grain relief, Department of Interior; and \$100,000 University Hospital, Edmonton, Alberta, transferred to non-active assets.

⁴To provide for revaluation and losses on account of Soldier Land Settlement loans.

⁵Includes \$2,521,083 on account of Home Bank Depositors' Relief in 1926, \$256,776 in 1927, \$205,033 in 1928 and \$17,109 in 1929.

⁶Includes \$1,099,673 Government contributions to the Civil Service Superannuation Fund under the Act of 1924 (14-15 Geo. 5, c 69) in 1927, \$1,402,210 in 1928, \$1,681,700 in 1929, \$1,892,591 in 1930 and \$2,067,466 in 1931.

⁷Includes \$6,700,000 Reparations claims for compensation in 1930 and \$500,000 in 1931.

⁸Includes \$8,553,535 to cover 30 p.c. reduction of Soldier Land Settlement loans, in accordance with the Act of 1930.

4.—Principal Items of Receipts of Canada on Consolidated Fund Account, 1868-1931

Fiscal Year.	Customs Duties.	Excise Duties.	War Tax Revenue. ¹	Total Revenue from Taxation.	Interest on Investments.	Post Office and Money Orders.	Total Revenue Receipts. ²
	\$	\$	\$	\$	\$	\$	\$
1868.....	8,578,380	3,002,588	—	11,700,681	174,073	525,692	13,687,922
1869.....	8,272,880	2,710,028	—	11,112,573	824,424	535,315	14,379,160
1870.....	9,334,213	3,619,623	—	13,087,882	383,956	573,566	15,512,222
1871.....	11,841,105	4,295,945	—	16,320,369	554,384	612,631	19,335,566
1872.....	12,787,982	4,735,652	—	17,715,552	488,042	692,375	20,714,811
1873.....	12,954,164	4,460,682	—	17,616,555	396,404	833,657	20,813,188
1874.....	14,325,193	5,594,904	—	20,129,185	610,863	1,139,973	24,205,099
1875.....	15,351,012	5,069,687	—	20,664,879	840,887	1,155,332	24,648,773
1876.....	12,823,838	5,563,487	—	18,614,415	798,906	1,102,540	22,587,555
1877.....	12,546,988	4,941,898	—	17,697,925	717,684	1,114,946	22,059,277
1878.....	12,782,824	4,858,672	—	17,841,938	791,758	1,207,790	22,357,000
1879.....	12,600,659	5,390,763	—	13,476,613	592,500	1,172,418	22,517,233
1880.....	14,071,343	4,232,428	—	18,479,577	834,793	1,252,498	23,307,444
1881.....	18,406,092	5,343,022	—	23,942,139	751,513	1,352,110	29,635,222
1882.....	21,581,570	5,884,860	—	27,549,047	914,009	1,587,888	33,383,444
1883.....	23,009,582	6,260,117	—	29,269,699	1,001,193	1,800,391	35,794,660
1884.....	20,023,890	5,459,309	—	25,483,199	986,698	1,755,674	31,861,991
1885.....	18,935,428	6,449,101	—	25,384,529	1,997,035	1,841,372	32,797,000
1886.....	19,362,308	5,852,905	—	25,215,213	2,299,079	1,901,690	33,177,000
1887.....	22,373,951	6,308,201	—	28,682,152	990,887	2,020,624	35,754,999
1888.....	22,091,682	6,071,487	—	28,163,169	932,025	2,379,242	35,908,444
1889.....	23,699,413	6,886,739	—	30,586,152	1,305,392	2,220,504	38,782,844
1890.....	23,913,546	7,618,118	—	31,531,664	1,082,271	2,357,389	39,879,999
1891.....	23,305,218	6,914,850	—	30,220,068	1,077,228	2,515,823	38,579,399
1892.....	20,361,382	7,945,098	—	28,306,480	1,086,420	2,652,746	36,921,644
1893.....	20,910,662	8,367,364	—	29,278,026	1,150,167	2,773,508	38,168,644
1894.....	19,119,030	8,381,089	—	27,500,119	1,217,809	2,809,341	36,374,644
1895.....	17,585,741	7,805,733	—	25,391,474	1,336,047	2,792,790	33,978,111
1896.....	19,766,741	7,926,006	—	27,692,747	1,370,001	2,964,014	36,618,762
1897.....	19,386,278	9,170,379	—	28,556,657	1,443,004	3,202,938	37,829,599
1898.....	21,622,789	7,871,563	—	29,494,352	1,513,455	3,527,810	40,555,222
1899.....	25,150,745	9,641,227	—	34,791,972	1,590,448	3,193,778	46,741,222
1900.....	28,219,458	9,868,075	—	38,087,533	1,683,051	3,205,535	51,029,999
1901.....	28,293,930	10,318,266	—	38,612,196	1,784,834	3,441,505	52,514,444
1902.....	31,916,394	11,197,134	—	43,113,528	1,892,224	3,918,416	58,050,222
1903.....	36,738,033	12,013,779	—	48,751,812	2,020,953	4,397,833	66,037,444
1904.....	40,461,591	12,958,708	—	53,420,299	2,236,256	4,652,325	70,669,999
1905.....	41,437,569	12,586,475	—	54,020,124	2,105,031	5,125,373	71,182,222
1906.....	46,053,377	14,010,220	—	60,063,597	2,140,312	5,933,343	80,139,999
1907.....	39,717,079	11,805,413	—	51,522,492	1,235,746	5,061,728	67,969,999
1908.....	57,200,276	15,782,152	—	72,982,428	1,925,569	7,107,887	96,054,999
1909.....	47,088,444	14,937,768	—	62,026,212	2,256,643	7,401,624	85,093,999
1910.....	59,767,681	15,253,353	—	75,021,034	2,807,465	7,958,548	101,503,999
1911.....	71,838,089	16,869,837	—	88,707,926	1,668,773	9,146,952	117,780,999
1912.....	85,051,872	19,261,662	—	104,313,534	1,281,317	10,492,394	136,108,999
1913.....	111,764,699	21,447,445	—	133,212,144	1,430,511	12,051,729	168,689,999
1914.....	104,691,238	21,452,037	—	126,143,275	1,964,541	12,954,530	163,174,999
1915.....	75,941,220	21,479,731	98,057	97,519,008	2,980,247	13,046,665	133,073,444
1916.....	98,649,409	22,428,492	3,620,782	124,669,969	3,358,210	18,858,690	172,147,999
1917.....	134,043,842	24,412,348	16,302,238	174,758,428	3,094,012	20,902,384	232,701,999
1918.....	144,172,630	27,168,445	25,379,901	196,720,976	4,466,724	21,345,394	260,778,999
1919.....	147,169,188	30,342,034	56,177,508	233,688,730	7,421,002	21,603,542	312,946,999
1920.....	168,796,823	42,698,083	82,079,801	293,574,707	17,086,981	24,471,709	349,746,999
1921.....	163,266,804	37,118,367	168,385,327	368,770,498	24,815,246	26,706,198	429,299,999
1922.....	105,686,645	36,755,207	177,484,161	319,926,013	21,961,513	26,402,299	382,271,999
1923.....	118,056,469	35,761,997	181,634,875	335,453,341	16,465,203	29,016,771	403,094,999
1924.....	121,500,799	38,181,747	182,036,261	341,718,807	11,916,479	28,865,374	460,582,999
1925.....	108,146,871	38,603,489	147,164,158	293,914,518	11,332,328	28,782,535	351,511,999
1926.....	127,355,144	42,923,549	157,296,320	327,575,013	8,535,086	30,334,575	382,893,999
1927.....	141,968,678	48,513,160	156,167,434	346,649,272	8,559,401	29,069,169	400,452,999
1928.....	156,985,818	57,400,898	150,319,087	364,705,803	10,937,822	31,562,580	429,642,999
1929.....	187,206,332	63,684,954	145,029,742	395,921,028	12,227,562	30,611,964	460,151,999
1930.....	179,429,920	65,035,701	134,086,005	378,551,626	13,518,205	33,345,385	445,916,999
1931.....	131,208,955	57,746,808	107,320,633	296,276,396	10,421,224	30,212,326	356,160,999

¹ For detailed statement see Table 8, p. 716.² Includes various smaller items of revenue received.³ Nine months.⁴ Inclusive of special receipts of \$1,905,648 in 1921, \$319,184 in 1922, \$8,479,310 in 1923, \$7,745,158 in 1924, \$4,680,913 in 1925, \$2,147,503 in 1926, \$1,756,704 in 1927, \$6,924,594 in 1928, \$4,687,600 in 1929, \$4,505,186 in 1930 and \$6,573,577 in 1931. See Table 2, p. 707.

Principal Items of Dominion Expenditure, 1868-1931—continued on pp. 712-713.

NOTE.—From 1868 to 1906, inclusive, the fiscal years ended on June 30, and from that date to the present on Mar. 31.

Fiscal Year.	Consolidated Fund.							
	Interest on Debt.	Charges of Management, Premium, Discount and Exchange.	Pensions.	Public Works.	Railways and Canals. ¹	Subsidies to Provinces.	Post Office.	Total Expenditure Chargeable to Consolidated Fund. ²
	\$	\$	\$	\$	\$	\$	\$	\$
1868...	4,501,568	359,190	56,422	126,270	581,503	2,753,966	616,802	13,486,093
1869...	4,907,014	465,657	50,564	65,013	641,814	2,604,050	787,886	14,038,084
1870...	5,047,054	339,999	53,586	120,031	743,070	2,588,605	808,623	14,345,510
1871...	5,165,304	426,655	52,611	597,275	752,772	2,624,940	815,471	15,623,082
1872...	5,257,231	346,413	62,251	849,786	913,236	2,930,113	929,609	17,589,469
1873...	5,209,206	178,644	49,204	1,297,999	1,378,164	2,921,400	1,067,866	19,174,648
1874...	5,724,436	264,685	56,454	1,778,916	2,260,820	3,752,757	1,387,270	23,316,317
1875...	6,590,790	227,201	63,657	1,756,010	1,981,893	3,750,962	1,520,861	23,713,071
1876...	6,400,902	208,149	110,201	1,948,242	1,897,283	3,690,355	1,622,827	24,488,372
1877...	6,797,227	207,875	112,531	1,262,823	2,239,346	3,655,851	1,705,312	23,519,302
1878...	7,048,884	192,087	105,842	997,470	2,374,314	3,472,808	1,724,939	23,503,158
1879...	7,194,734	277,923	107,795	1,013,023	2,570,361	3,442,764	1,784,424	24,455,382
1880...	7,773,869	289,085	192,889	1,046,342	2,226,456	3,430,846	1,818,271	24,850,632
1881...	7,594,145	225,444	96,389	1,108,815	2,603,717	3,455,518	1,876,658	25,502,454
1882...	7,740,804	195,044	101,197	1,342,000	2,755,833	3,530,999	1,980,567	27,067,104
1883...	7,668,552	234,170	98,446	1,765,256	3,117,465	3,606,673	2,176,089	28,730,157
1884...	7,700,181	229,906	95,543	2,908,852	3,122,103	3,603,714	2,312,965	31,107,706
1885...	9,419,482	387,495	99,879	2,302,363	3,268,222	3,959,327	2,488,315	35,037,060
1886...	10,137,009	346,921	88,319	2,046,552	3,339,670	4,182,526	2,763,186	39,011,612
1887...	9,682,929	287,742	102,109	2,133,316	3,673,894	4,169,341	2,819,907	35,657,680
1888...	9,823,313	343,592	120,334	2,162,116	4,160,332	4,188,514	2,889,729	36,718,495
1889...	10,148,932	273,590	116,030	2,299,231	4,095,301	4,051,428	2,982,321	36,917,835
1890...	9,650,841	230,409	107,391	1,972,501	4,362,200	3,904,922	3,074,470	35,994,031
1891...	9,584,137	262,068	103,850	1,937,546	4,505,516	3,903,757	3,161,676	36,343,568
1892...	9,763,978	183,938	92,457	1,627,851	4,337,877	3,935,914	3,316,120	36,765,894
1893...	9,806,888	213,794	90,309	1,927,832	3,848,404	3,935,765	3,421,203	36,814,053
1894...	10,212,596	180,975	86,927	2,033,955	3,760,550	4,206,655	3,517,261	37,585,025
1895...	10,466,294	278,950	84,349	1,742,317	3,704,126	4,250,675	3,593,647	38,132,005
1896...	10,502,430	248,575	86,080	1,299,769	3,826,226	4,235,664	3,665,011	36,949,142
1897...	10,645,663	315,314	90,882	1,463,719	3,725,690	4,238,059	3,789,478	38,349,760
1898...	10,516,758	199,887	96,187	1,701,313	4,049,275	4,237,372	3,575,412	38,832,526
1899...	10,855,112	173,257	96,129	1,902,664	4,246,404	4,250,636	3,603,799	41,903,500
1900...	10,699,645	227,194	93,453	2,289,889	5,244,301	4,250,608	3,758,015	42,975,279
1901...	10,807,955	201,861	93,551	3,386,632	6,377,961	4,250,607	3,931,446	46,886,368
1902...	10,975,935	263,250	83,305	4,221,294	6,508,477	4,402,098	4,023,637	50,759,392
1903...	11,068,139	294,968	87,925	4,065,553	7,221,705	4,402,503	4,105,178	51,691,903
1904...	11,128,637	288,984	113,495	4,607,330	8,397,434	4,402,292	4,347,541	55,612,833
1905...	10,630,115	276,072	140,424	6,765,446	9,803,912	4,516,038	4,634,528	64,319,683
1906...	10,814,697	346,902	179,023	7,484,716	8,779,678	6,726,373	4,921,577	67,240,641
1907...	6,712,771	244,548	125,832	5,520,571	7,011,858	6,745,134	3,979,557	51,642,161
1908...	10,973,597	383,820	187,557	8,721,327	10,586,114	9,032,775	6,005,930	76,641,452
1909...	11,604,584	356,707	191,533	12,300,184	10,780,126	9,117,143	6,592,386	84,064,232
1910...	13,098,160	358,973	216,697	7,261,218	10,215,038	9,361,388	7,215,338	79,411,747
1911...	12,535,851	376,777	240,586	8,621,431	11,123,251	9,092,472	7,954,223	87,774,198
1912...	12,259,397	455,011	245,045	10,344,487	12,330,463	10,281,045	9,172,036	98,161,441
1913...	12,605,882	502,988	283,188	13,468,505	13,766,180	13,211,800	10,882,804	112,059,537
1914...	12,893,505	487,184	311,900	19,007,513	14,935,138	11,280,469	12,822,058	127,384,473
1915...	15,736,748	554,729	358,558	19,343,532	13,876,060	11,451,673	15,069,191	135,523,207
1916...	21,421,585	731,836	671,133	12,039,252	20,777,830	11,451,673	16,991,139	130,300,727
1917...	35,802,567	496,387	2,814,546	8,633,096	27,124,004	11,469,148	16,300,579	148,599,343
1918...	47,845,585	488,712	8,155,691	7,432,901	34,849,608	11,369,148	18,046,588	178,284,313
1919...	77,431,432	1,305,676	18,282,440	6,295,060	45,494,584	11,327,236	19,273,758	232,731,283
1920...	107,527,089	1,462,658	26,004,461	9,016,246	8,418,024	11,490,860	20,774,312	308,843,930
1921...	139,551,520	1,102,088	37,420,751	10,846,875	8,886,458	11,490,860	22,696,561	361,118,145
1922...	135,247,849	4,109,601	36,153,031	10,574,364	8,624,094	12,211,924	28,121,425	347,560,691
1923...	137,892,735	1,003,068	32,985,998	9,978,440	7,691,261	12,207,313	27,794,502	332,293,732
1924...	136,237,872	903,907	33,411,081	11,900,847	2,126,803	12,386,136	28,305,941	324,813,190
1925...	134,789,604	849,694	34,888,665	12,029,578	1,996,152	12,251,391	29,873,802	318,891,901
1926...	130,681,493	884,388	37,203,700	13,416,045	2,120,223	12,375,128	30,499,686	320,660,479
1927...	129,675,367	987,265	37,902,939	11,178,054	2,152,015	12,516,740	31,007,688	319,548,173
1928...	128,902,945	926,763	39,778,130	14,037,366	2,535,361	12,516,740	31,782,068	336,167,961
1929...	124,986,950	990,617	41,487,323	17,003,254	2,405,272	12,553,724	33,483,058	350,952,924
1930...	121,569,213	1,088,742	40,406,565	18,134,359	2,459,990	12,496,958	35,036,629	357,779,704
1931...	121,289,844	939,613	45,965,723	23,763,254	2,911,080	17,435,736	36,292,604	389,558,289

¹ Expenditure (Collection of Revenue). After 1919 railway receipts were applied directly to railway expenditure; this accounts for the great decline in the figures in 1920 and subsequent years. ² Includes various non-enumerated items. ³ Nine months.

5.—Principal Items of Dominion

Fiscal Year.	Capital Expenditure.								
	Canals.	Canadian Pacific Railway.	Debts Allowed to Provinces.	Dominion Lands.	Inter-colonial and Connected Railways, Miscellaneous.	Public Works.	Hudson Bay Railway.	National Transcontinental Railway, Including Quebec Bridge.	Prince Edward Island Railway.
	\$	\$	\$	\$	\$	\$	\$	\$	\$
1868	51,498	—	—	—	455,250	41,690	—	—	—
1869	130,142	—	—	—	282,615	8,548	—	—	—
1870	—	—	—	—	1,693,229	—	—	—	—
1871	—	30,148	—	—	2,866,376	—	—	—	—
1872	255,646	489,428	1,666,200	—	5,131,141	68,746	—	—	—
1873	256,547	561,818	13,859,080	—	5,019,240	99,517	—	—	—
1874	1,189,592	310,225	4,927,061	—	3,614,899	135,963	—	—	—
1875	1,714,830	1,546,242	—	—	3,426,100	189,484	—	—	49,000
1876	2,388,733	3,346,567	—	—	1,108,322	267,840	—	—	41,000
1877	4,131,375	1,691,150	—	—	1,818,352	258,833	—	—	200,000
1878	3,843,339	2,228,373	—	—	408,817	170,120	—	—	6,000
1879	3,064,099	2,240,286	—	—	226,639	77,179	—	—	46,000
1880	2,123,366	4,044,523	—	—	2,048,015	8,730	—	—	16,000
1881	2,077,029	4,968,504	—	334,681	608,733	187,370	—	—	—
1882	1,647,759	4,589,076	—	511,882	585,569	70,949	—	—	—
1883	1,763,002	10,033,800	—	556,870	1,616,633	119,869	—	—	57,000
1884	1,577,295	11,192,722	7,172,298	723,658	2,689,690	491,376	—	—	136,000
1885	1,504,621	9,900,282	5,420	303,593	1,247,006	182,306	—	—	76,000
1886	1,333,325	3,672,585	3,113,334	130,653	765,967	569,202	—	—	4,000
1887	1,783,698	915,057	—	162,392	926,030	353,044	—	—	5,000
1888	1,033,118	52,099	—	135,048	1,713,487	963,778	—	—	—
1889	972,918	86,716	—	130,684	2,623,137	575,408	—	—	—
1890	1,026,364	40,981	—	133,832	2,351,787	3,220,926	—	—	—
1891	1,280,725	37,367	—	94,847	1,184,318	515,702	—	—	—
1892	1,463,279	66,212	—	86,735	316,784	224,390	—	—	8,000
1893	2,069,573	413,837	—	115,038	299,081	181,878	—	—	—
1894	3,027,164	146,540	—	149,147	439,209	102,059	—	—	—
1895	2,452,274	49,209	—	99,842	327,605	102,393	—	—	—
1896	2,258,779	65,669	—	82,184	260,396	114,826	—	—	—
1897	2,348,637	14,054	—	91,412	190,570	129,238	—	—	—
1898	3,207,250	692	—	127,505	252,756	364,018	—	—	17,000
1899	3,899,877	8,419	267,026	151,213	1,081,930	385,094	—	—	22,000
1900	2,639,565	236	—	199,470	3,255,348	1,089,827	—	—	53,000
1901	2,360,570	8,979	—	269,061	3,633,837	1,006,983	—	—	280,000
1902	2,114,690	449	—	370,838	4,626,841	2,190,125	—	—	475,000
1903	1,823,274	—	—	449,542	2,254,267	1,268,004	—	—	829,000
1904	1,880,787	33,076	—	748,555	1,879,566	1,334,397	—	6,249	698,000
1905	2,071,594	—	—	794,410	4,755,578	1,642,042	—	778,491	591,000
1906	1,552,121	—	—	596,780	3,765,171	2,359,528	—	1,841,270	496,000
1907	887,839	—	—	526,583	1,512,491 ¹	1,797,871	—	5,537,867	91,000
1908	1,723,156	600	—	768,244	4,369,738	2,969,049	—	18,910,253	390,000
1909	1,873,868	939	—	797,747	3,874,480	2,832,295	92,428	31,317,132	561,000
1910	1,650,707	—	—	785,157	1,278,409	4,514,606	53,043	19,868,064	206,000
1911	2,349,475	2,918	—	—	763,833	3,742,717	184,150	23,715,549	94,000
1912	2,560,938	—	—	—	1,710,449	4,116,385	159,632	22,264,130	128,000
1913	2,259,642	—	—	—	2,406,988 ²	6,057,515	1,099,063	15,279,837	103,000
1914	2,829,661	—	—	—	4,348,000	10,100,017	4,498,717	15,274,206	123,000
1915	5,490,796	—	—	—	6,914,977	11,049,030	4,773,744	12,648,242	570,000
1916	6,170,953	—	—	—	7,861,899	8,471,229	4,887,131	9,825,265	1,350,000
1917	4,304,589	—	—	—	4,873,032	7,838,116	2,604,280	6,650,263	609,000
1918	1,781,957	—	—	—	—	6,347,201	1,879,699	103,167	—
1919	2,211,964	—	—	—	—	5,705,348	562,558	1,723,638	—
1920	4,550,761	—	—	—	3,285,736	38,869,683	—235,608	527,480	—
1921	5,450,006	—	—	—	781,018	27,559,809	30,036	20,164	—
1922	4,482,610	—	—	—	9,649	10,431,699	34,770	—	—
1923	4,995,184	—	—	—	59,950	3,411,510	27,803	—	97,000
1924	6,747,395	—	—	—	—	3,804,427	207,872	—	196,000
1925	10,619,903	—	—	—	—	6,030,320	—124,154	—	—
1926	12,024,456	—	—	—	—	4,805,949	—2,484	—	—
1927	13,845,689	—	—	—	—	2,920,670	2,823,905	—	—
1928	13,762,905	71	—	—	—	3,281,097	3,554,503 ³	—	63,000
1929	13,164,582	—	—	—	—	—	—	—	—
1930	9,324,177	—	—	—	—7,990,740	16,818,019	6,159,563	—	—
1931	9,842,011	—	—	—	—25,856	6,573,530	6,472,214	—415	—
					—277,535	12,009,276	4,139,690	8,877	—

¹Including \$2,725,504, for the improvement of the St. Lawrence, spent during the previous year Montreal Harbour Commission. ²Including \$17,956, cost of new car for the Governor General. ³Including \$38,583, cost of new car for the Governor General. ⁴Including \$15,000, cost of new car for the Governor General. ⁵Includes New Brunswick Railway. ⁶Nine months. ⁷Includes capital expenditure on Hudson Bay Terminals \$880,278.

Expenditure, 1868-1931—concluded.

North-west Territories.	Militia.	Canadian Government Railways.	Total Capital Expenditure.	Other Expenditure.			Total Expenditure.	Fiscal Year.
				Railway Subsidies.	War and Demobilization.	Other Charges.		
\$	\$	\$	\$	\$	\$	\$	\$	
-	-	-	548,438	-	-	37,158	14,071,689	1868
19,113	-	-	440,418	-	-	429,663	14,908,166	1869
1,821,887	-	-	3,515,116	-	-	155,988	18,016,614	1870
773,872	-	-	3,670,396	-	-	-	19,293,478	1871
241,889	-	-	7,853,050	-	-	223,456	25,665,975	1872
63,239	-	-	19,859,441	-	-	5,719	39,030,808	1873
-	-	-	10,177,740	-	-	4,019	33,498,076	1874
-	-	-	6,922,743	-	-	2,253,097	32,888,911	1875
-	-	-	7,154,008	-	-	315,764	31,958,144	1876
-	-	-	7,599,710	-	-	1,388,984	32,507,996	1877
-	-	-	6,657,200	-	-	385,413	30,545,772	1878
-	-	-	5,648,332	-	-	676,225	30,779,939	1879
-	-	-	8,241,174	-	-	949,948	34,041,756	1880
-	-	-	8,176,317	-	-	117,772	33,796,643	1881
-	-	-	7,405,637	-	-	201,885	34,674,625	1882
-	-	-	14,147,360	-	-	21,369	42,898,886	1883
-	-	-	23,977,702	208,000	-	2,567,453	57,860,862	1884
-	-	-	13,220,185	403,245	-	502,587	49,163,078	1885
-	-	-	9,589,734	2,701,249	-	10,534,973	61,837,569	1886
293,918	-	-	4,439,939	1,406,533	-	-	41,504,152	1887
539,930	-	-	4,437,460	1,027,042	-	155,623	45,064,124	1888
31,448	-	-	4,420,313	846,722	-	1,333,328	43,518,198	1889
4,773	-	-	6,778,663 ¹	1,678,196	-	44,947	41,770,333	1890
2,901	-	-	3,115,860	1,265,706	-	68,074	40,793,208	1891
-1,243	-	-	2,164,457	1,248,216	-	2,093,569	42,272,136	1892
8,911	-	-	3,088,318	811,394	-	139,963	40,853,728	1893
-1,149	-	-	3,862,970	1,229,885	-	330,354	43,008,234	1894
-833	-	-	3,030,490	1,310,549	-	399,294	42,872,338	1895
-543	1,000,000	-	3,781,311	3,228,746	-	137,185	44,096,384	1896
3,284	745,965	-	3,523,160	416,955	-	682,881	42,972,756	1897
-1,272	173,740	-	4,142,231	1,414,935	-	944,589	45,334,281	1898
-1,853	387,810	-	6,201,516	3,201,220	-	236,399	51,542,635	1899
-1,473	230,851	-	7,467,370	725,720	-	1,549,098	52,717,467	1900
-1,632	135,885	-	7,693,857	2,512,329	-	900,312	57,982,866	1901
-1,543	299,697	-	10,077,095	2,093,939	-	1,040,374	63,970,800	1902
-3,040	428,223	-	7,049,684	1,463,222	-	1,541,763	61,746,572	1903
-2,616	1,299,910	-	7,879,102	2,046,878	-	6,716,235	72,255,048	1904
-2,478	1,299,964	-	11,931,014	1,275,630	-	2,277,812	78,804,139	1905
-1,767	1,299,876	-	11,912,104	1,637,574	-	2,487,323	83,277,642	1906
-1,352	975,283	-	11,327,792	1,324,889	-	1,583,297	65,778,138	1907 ²
-911	1,297,905	-	30,428,996	2,037,629	-	3,470,603	112,578,680	1908
-1,045	1,243,072	-	42,592,122	1,785,887	-	4,999,283	133,441,524	1909
-650	1,299,970	-	29,655,703	2,048,097	-	4,280,227	115,395,774	1910
-33,688	-	-	30,813,767	1,284,892	-	2,988,393	122,861,250	1911
-	-	-	30,939,576	859,490	-	7,181,665	137,142,082	1912
-	-	-	27,206,046	4,935,507	-	255,787	144,456,878	1913
-	-	-	37,180,176	19,036,237	-	2,640,162	186,241,048	1914
-	-	-	41,447,320	5,191,507	60,750,476	5,186,016	248,098,526	1915
-	-	-	38,566,950	1,400,171	166,197,755	3,186,898	339,702,502	1916
-	-	-	26,880,032	959,584	306,488,815	15,275,345	498,203,118	1917
-	-	32,999,880	43,111,904	720,405	343,836,802	10,706,787	576,660,210	1918
-	-	14,827,758	25,031,266	43,805	446,519,440	-7,283,532	697,042,212	1919
-	-	22,307,366	69,301,878	334,845	346,612,955	19,995,313	786,030,611 ³	1920
-	-	6,221,774	40,012,807	-	16,997,544	492,048	528,302,513 ³	1921
-	-	1,239,605	16,295,333	-	301,518	463,628,890 ³	563,628,890 ³	1922
-	-	1,313,022	9,807,124	-	4,464,760	4,042,931	434,735,277 ³	1923
-	-	-94,835	10,861,277	-1,523	446,083	7,902,759	370,589,247 ³	1924
-	-	24,442	16,550,511	-	506,931	3,953,433	351,169,803 ³	1925
-	-	-29,372	16,798,549	-	191,392	6,330,092	355,186,423 ³	1926
-	-	-31,562	19,558,703	-	64,485	7,814,977	358,556,751 ³	1927
-	-	-26,347	20,635,648	-	1,656,011	1,705,311	378,658,440 ³	1928
-	-	-5,342,149	22,809,275	-	-669,399	2,067,153	388,805,953 ³	1929
-	-	217,494	22,561,144	-	59,702	9,744,021	398,176,246 ³	1930
-	-	2,500,000	28,222,318	-	61,889	16,678,959	440,008,855 ³	1931

¹Includes advances to railways (non-active), amounting to \$45,780,690 in 1920, \$109,662,655 in 1921, \$97,950,645 in 1922, \$77,863,938 in 1923, \$23,710,617 in 1924, \$9,934,453 in 1925, \$10,000,000 in 1926, \$10,000,000 in 1927, \$2,932,653 in 1930; together with advances of \$5,979,856 in 1923, \$1,500,000 in 1924, \$900,000 in 1925, \$668,000 in 1926, \$426,817 in 1927, \$999,837 in 1928 and \$758,000 in 1929, \$2,491,297 in 1930, \$1,826,942 in 1931 to the Canadian Government Merchant Marine; also other advances shown at the end of Table 3 on p 709.

6. Census and Estimated Populations, Per Capita Taxation and Total Revenue Receipts, Per Capita Expenditure on Consolidated Fund Account and Total Expenditure, 1868-1931.¹

NOTE.—The years marked with an asterisk (*) are those of the censuses, April 2, 1871; April 4, 1881; April 6, 1891; April 1, 1901; June 1, 1911, 1921 and 1931. In all cases down to 1910 the population is estimated at the close of each fiscal year; June 30 from 1868 to 1905, and Mar. 31 from 1907 to 1910. For the intercensal years 1912 to 1920, and also for 1922 to 1930, the population is estimated as at June 1. The fiscal period of 1907 is for the nine months ended Mar. 31.

Fiscal Year.	Population.	Per Capita Revenue from Taxation.	Per Capita Total Revenue Receipts.	Per Capita Expenditure on Consolidated Fund Acct.	Per Capita Total Disbursements.	Fiscal Year.	Population.	Per Capita Revenue from Taxation.	Per Capita Total Revenue Receipts.	Per Capita Expenditure on Consolidated Fund Acct.	Per Capita Total Disbursements.
	No.	\$	\$	\$	\$		No.	\$	\$	\$	\$
1868...	3,372,000	3.47	4.05	4.00	4.17	1898...	5,199,000	5.55	7.80	7.47	8.72
1869...	3,413,000	3.26	4.21	4.11	4.37	1899...	5,259,000	6.62	8.89	7.97	9.80
1870...	3,454,000	3.79	4.29	4.15	5.22	1900...	5,322,000	7.16	9.59	8.07	9.63
1871*...	3,485,761	4.68	5.55	4.48	5.53	1901*...	5,371,315	7.19	9.78	8.72	10.79
1871...	3,518,000	4.64	5.50	4.44	5.48	1901...	5,403,000	7.15	9.72	8.67	10.73
1872...	3,611,000	5.04	5.74	4.87	7.11	1902...	5,532,000	7.79	10.49	9.18	11.56
1873...	3,668,000	4.80	5.67	5.23	10.64	1903...	5,673,000	8.59	11.64	9.11	10.88
1874...	3,825,000	5.26	6.33	6.10	8.76	1904...	5,825,000	9.17	12.13	9.55	12.40
1875...	3,887,000	5.32	6.34	6.10	8.46	1905...	5,992,000	9.02	11.88	10.57	13.15
1876...	3,949,000	4.71	5.70	6.20	8.09	1906...	6,171,000	9.73	12.99	10.90	13.49
1877...	4,013,000	4.41	5.50	5.86	8.10	1907...	6,302,000	8.18	10.71	8.18	10.44
1878...	4,079,000	4.37	5.49	5.76	7.49	1908...	6,491,000	11.24	14.80	11.81	17.34
1879...	4,146,000	4.46	5.43	5.90	7.42	1909...	6,695,000	9.26	12.71	12.56	19.93
1880...	4,215,000	4.38	5.53	5.90	8.08	1910...	6,917,000	10.85	14.67	11.48	16.68
1881*...	4,324,810	5.54	6.85	5.90	7.82	1911*...	7,206,643	12.31	16.34	12.18	17.04
1881...	4,337,000	5.52	6.83	5.88	7.79	1912...	7,365,205	14.16	18.48	13.33	18.62
1882...	4,384,000	6.28	7.62	6.18	7.91	1913...	7,527,208	17.70	22.41	14.89	19.19
1883...	4,433,000	6.60	8.08	6.48	9.68	1914...	7,692,832	16.40	21.21	16.56	24.21
1884...	4,485,000	5.68	7.11	6.94	12.90	1915...	7,862,078	12.40	16.93	17.24	31.56
1885...	4,539,000	5.59	7.23	7.72	10.80	1916...	8,035,584	15.51	21.42	16.22	42.27
1886...	4,589,000	5.49	7.23	8.50	13.48	1917...	8,180,160	21.36	28.45	18.17	60.98
1887...	4,638,000	6.18	7.71	7.69	8.95	1918...	8,328,382	23.62	31.31	21.41	69.24
1888...	4,688,000	6.01	7.66	7.84	9.61	1919...	8,478,546	27.56	36.91	27.45	82.21
1889...	4,740,000	6.45	8.19	7.79	9.18	1920...	8,631,475	34.01	40.52	35.20	91.07
1890...	4,793,000	6.58	8.33	7.52	8.71	1921*...	8,788,483	41.96	49.64	41.09	60.11
1891*...	4,833,239	6.25	7.98	7.52	8.44	1922 ² ...	8,919,000	35.87	42.86	38.97	51.97
1891...	4,844,000	6.24	7.96	7.50	8.42	1923 ² ...	9,009,000	37.24	44.74	36.88	48.22
1892...	4,889,000	5.79	7.55	7.52	8.65	1924 ² ...	9,142,000	37.35	44.47	35.53	49.53
1893...	4,936,000	5.93	7.73	7.46	8.28	1925 ² ...	9,293,000	31.63	37.83	34.32	37.78
1894...	4,984,000	5.52	7.29	7.54	8.79	1926 ² ...	9,451,000	24.66	40.52	33.93	37.50
1895...	5,034,000	5.04	6.75	7.58	8.52	1927 ² ...	9,635,000	35.98	41.56	33.17	37.20
1896...	5,086,000	5.45	7.20	7.26	8.67	1928 ² ...	9,833,000	37.09	43.69	34.19	38.54
1897...	5,142,000	5.55	7.36	7.46	8.36	1929 ² ...	10,027,000	39.49	45.89	35.00	38.78
						1930 ² ...	10,216,000	37.09	43.69	35.06	39.61
						1931*...	10,374,196	23.56	34.33	37.55	42.41

¹See the tables on pp. 710-713 for the figures on which this table is based.

²The per capita figures for the years 1922-1931 inclusive are worked out on the basis of the revised population estimates (see p. 110).

7. -Per Capita Revenue Receipts and Expenditure, by Principal Items, 1925-31.

RECEIPTS.

NOTE.—See Table 2 on p. 707 for the figures on which this table is based.

Item of Receipts.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$	\$
Consolidated Fund Receipts—							
TAXATION—							
Customs.....	11-65	13-48	14-74	15-96	18-67	17-59	12-86
Excise.....	4-16	4-54	5-04	5-84	6-35	6-37	5-66
War Tax Revenue—							
Banks.....	0-13	0-12	0-12	0-12	0-12	0-14	0-14
Trust and loan companies.....	0-03	0-03	0-03	0-04	—	—	—
Insurance companies.....	0-09	0-10	0-10	0-10	0-09	—	—
Business profits.....	0-29	0-12	0-07	0-10	0-05	0-01	—
Income tax.....	6-05	5-88	4-92	5-75	5-92	6-76	6-97
Sales tax, tax on cheques, transportation tax, etc.....	9-23	10-39	10-96	9-18	8-29	6-22	3-40
Totals from Taxation...	31-63	34-66	35-98	37-09	39-49	37-09	29-03
NON-TAX REVENUE—							
Interest on investments...	1-22	0-90	0-89	1-11	1-22	1-32	1-02
Post Office.....	3-10	3-21	3-02	3-21	3-05	3-27	2-96
Other revenue.....	1-37	1-52	1-49	1-58	1-66	1-57	1-24
Total Consolidated Fund receipts.....	37-32	40-29	41-38	42-99	45-42	43-25	34-25
Special receipts.....	0-50	0-23	0-18	0-70	0-47	0-44	0-64
Grand Totals, Receipts...	37-82	40-52	41-56	43-69	45-89	43-69	34-89

EXPENDITURE.

NOTE.—See Table 3 on pp. 708-709 for the figures on which this table is based.

Item of Expenditure.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$	\$
Agriculture.....	0-62	0-61	0-61	0-66	0-72	0-91	0-88
Charges on debt.....	14-60	13-92	13-56	13-20	12-56	12-02	11-78
Civil Government.....	1-12	1-14	1-13	1-18	1-18	1-20	1-22
Customs and Excise.....	0-82	1-03	1-05	1-10	1-28	1-29	1-27
Dominion Lands.....	0-37	0-39	0-44	0-42	0-50	0-54	0-48
Immigration.....	0-30	0-25	0-24	0-28	0-26	0-27	0-22
Indians.....	0-39	0-39	0-40	0-43	0-46	0-50	0-57
Legislation.....	0-26	0-45	0-47	0-21	0-23	0-23	0-45
National Defence (Militia, Naval and Air Services)....	1-26	1-33	1-35	1-60	1-79	1-96	2-09
Pensions.....	3-75	3-94	3-93	4-05	4-14	3-96	4-43
Post Office.....	3-21	3-23	3-22	3-23	3-34	3-43	3-50
Public Works, income.....	1-29	1-42	1-16	1-43	1-70	1-78	2-29
R.C.M. Police.....	0-22	0-22	0-22	0-23	0-26	0-28	0-28
Soldiers' Civil Re-establishment.....	0-94	0-82	0-72	0-71	0-79	0-83	0-94
Soldiers' Land Settlement...	0-15	0-13	0-13	0-14	0-14	0-13	0-13
Subsidies to provinces.....	1-32	1-31	1-30	1-27	1-25	1-22	1-68
Trade and Commerce.....	0-41	0-43	0-38	0-36	0-39	0-42	0-58
Other Ordinary expenditure..	3-29	2-92	2-86	3-69	4-01	4-09	4-76
Totals, Ordinary Expenditure.....	31-32	33-93	33-17	34-19	35-00	35-06	37-55
Special expenditure.....	0-47	0-69	0-81	0-34	0-14	0-95	1-61
Other Disbursements—							
Capital expenditure.....	1-78	1-78	2-03	2-10	2-27	2-21	2-72
Advances to railways and Merchant Marine.....	1-17	1-13	1-08	0-10	0-08	0-53	0-18
Miscellaneous.....	0-05	0-06	0-12	1-78	1-29	0-26	0-35
Grand Totals, Expenditure.	37-79	37-59	37-21	38-51	38-78	39-01	42-41

¹The per capita figures in this table are worked out on the basis of the revised population estimates (see p. 110).

Subsection 3.—War Tax Revenue.

An account of the various war taxes imposed in 1915 and subsequently has already been given on pp. 703-5 in the introduction to this section. For convenience of reference the amounts received from these taxes since the beginning are

segregated and the totals paid in to the Receiver-General are given in Table 8. The taxes imposed on banks, trust and loan companies and insurance companies are collected by the Department of Finance. The excise war taxes, the business profits war tax and the income war tax are collected by the Department of National Revenue formerly the Customs and Excise Department. The amounts of excise war taxes collected from different sources in the last six fiscal years are given in Table 9, while Table 10 contains the details by provinces for the latest year. The amounts collected in income war tax and business profits war tax are given by provinces for the two latest fiscal years in Table 11. (See also Tables 34 to 38 of this chapter.)

8.—War Tax Revenue Received, fiscal years ended Mar. 31, 1915-31.

Year.	Banks.	Trust and Loan Companies.	Insurance Companies.	Business Profits.	Income Tax.	Customs and Excise. ¹	Total War Tax Revenue.
	\$	\$	\$	\$	\$	\$	\$
1915.....	—	—	—	—	—	98,057	98,057
1916.....	1,300,447	324,250	459,247	—	—	1,536,838	3,620,732
1917.....	1,114,023	202,415	419,699	12,506,517	—	2,059,584	16,302,233
1918.....	1,115,758	269,129	496,540	21,271,084	—	2,227,390	25,379,901
1919.....	1,099,764	323,340	546,114	32,970,062	9,349,720	11,888,508	56,177,500
1920.....	1,170,223	274,216	638,731	44,145,184	20,263,740	15,587,707	82,079,831
1921.....	1,257,534	293,802	807,667	40,841,401	46,381,824	78,803,099	168,385,727
1922.....	1,293,697	283,994	749,959	22,815,667	78,684,355	73,656,489	177,484,101
1923.....	1,244,437	312,392	852,328	13,031,462	59,711,538	106,482,718	181,634,874
1924.....	1,236,957	308,632	857,587	4,752,681	54,204,028	120,676,376	182,036,260
1925.....	1,217,754	315,315	867,902	2,704,427	56,248,043	85,810,717	147,164,153
1926.....	1,176,869	326,714	950,221	1,173,449	55,571,962	98,097,106	157,296,322
1927.....	1,174,665	335,368	947,830	710,102	47,386,309	105,613,160	156,167,433
1928.....	1,224,645	345,430	999,003	950,031	56,571,047	90,222,931	150,319,083
1929.....	1,242,399	7,641	894,864	455,232	59,422,323	83,007,283	145,029,744
1930.....	1,408,420	626 ²	74,416	173,300	69,020,726	63,409,143	134,085,377
1931.....	1,429,264	6	74,250	34,430	71,048,022	34,734,661	107,320,663
Totals.....	19,703,856	3,922,018	10,636,358	193,631,029	683,863,637	973,911,767	1,890,581,660

¹Amounts paid in to Receiver-General.

²There were refunds in excess of revenue of \$626 for 1930.

9.—Summary of Excise War Taxes Collected by the Department of Customs and Excise (now the Department of National Revenue), fiscal years ended Mar. 31, 1926-31.

(Accrued Revenue.)

Item.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Licences.....	35,666	37,036	35,839	38,690	44,530	38,335
Stamps.....	9,273,589	8,830,517	4,411,086	3,867,810	5,559,844	3,609,188
Matches.....	2,191,999	2,874,728	2,148,431	1,502,395	1,794,556	1,838,279
Automobiles.....	3,474,991	2,208,582	838,286	1,025,661	742,471	398,411
Confectionery.....	—	—	—	—	—	—
Playing cards.....	277,929	286,022	224,860	268,752	291,184	290,035
Cigars.....	321,807	311,701	320,627	328,764	329,217	256,558
Wines.....	95,459	118,080	170,987	211,717	299,466	262,222
Ale, beer and porter.....	5,466,628	5,198,503	6,320,590	7,953,133	7,475,125	6,541,360
Beverages and carbonic acid gas.....	38,279	27,550	—	—	—	—
Transportation.....	2,404,371	2,452,780	2,534,982	2,647,801	650,172	209,172
Embossed cheques.....	345,013	368,238	174,353	13,276	3,973	79
Embossed cheques (Departmental).....	149,585	76,521	174,957	195,201	186,240	187,335
Penalties and interest.....	—	—	146,783	183,934	169,452	278,557
Sales, domestic.....	57,253,867	63,940,130	55,379,084	49,151,636	34,936,376	16,586,977
Other domestic war tax revenue.....	—	—	—	—	—	—
Domestic Totals.....	81,334,184	86,780,388	72,880,865	67,388,770	52,482,606	30,288,225
Importations—						
Sales.....	16,771,226	18,365,540	16,721,160	14,495,036	9,922,325	4,196,923
Excise.....	1,122,924	1,577,400	2,060,061	2,130,360	1,743,665	886,685
Gross Totals, Excise Taxes.....	99,228,334	106,723,328	91,662,086	84,014,166	64,153,596	35,371,900

¹Includes refunds, etc., of \$1,131,229 in 1926, \$1,110,168 in 1927, \$1,439,155 in 1928, \$1,006,883 in 1929, \$744,453 in 1930 and \$637,245 in 1931.

10.—Excise War Taxes Collected by the Department of National Revenue, by Provinces, fiscal year ended Mar. 31, 1931.

(Accrued Revenue.)

Province.	Licences.	Stamps.	Matches.	Automobiles.	Sales.
	\$	\$	\$	\$	\$
Prince Edward Island.....	234	10,653	—	—	9,588
Nova Scotia.....	1,118	79,853	—	108	273,804
New Brunswick.....	866	64,609	—	234	179,209
Quebec.....	12,309	1,087,110	875,172	13,391	5,365,927
Ontario.....	17,114	1,546,663	963,061	377,117	9,342,241
Manitoba.....	1,460	177,530	—	1,163	466,483
Saskatchewan.....	501	152,230	—	3,047	109,432
Alberta.....	1,086	204,765	—	605	228,079
British Columbia.....	3,647	274,688	—	2,779	611,972
Yukon Territory.....	4	853	—	—	242
Departmental Sales.....	—	10,226	—	—	—
Totals.....	38,339	3,609,180	1,838,233	398,444	16,586,977

Province.	Playing Cards.	Cigars.	Wines.	Ale, Beer and Porter.	Transportation.
	\$	\$	\$	\$	\$
Prince Edward Island.....	—	—	—	—	—
Nova Scotia.....	—	102	—	87,288	—
New Brunswick.....	—	77	—	28,849	—
Quebec.....	124,704	143,477	—	3,432,809	—
Ontario.....	165,331	109,837	251,772	1,459,089	49
Manitoba.....	—	—	531	433,212	—
Saskatchewan.....	—	—	—	188,691	—
Alberta.....	—	220	—	458,305	—
British Columbia.....	—	2,837	9,922	453,124	155
Yukon Territory.....	—	—	—	—	—
Departmental Sales.....	—	—	—	—	—
Totals.....	290,035	256,550	262,225	6,541,367	204

Province.	Embossed Cheques.	Penalties and Interest.	Domestic Total.	Importations.		Total.
				Sales.	Excise.	
	\$	\$	\$	\$	\$	\$
Prince Edward Island.....	—	6	20,481	7,433	4,479	32,393
Nova Scotia.....	7	1,732	444,012	117,325	35,138	596,475
New Brunswick.....	—	4,262	278,106	124,938	20,368	423,412
Quebec.....	144	85,172	11,140,215	1,115,250	195,235	12,450,700
Ontario.....	356	124,353	14,356,983	1,761,582	423,430	16,541,995
Manitoba.....	153	1,235	1,081,767	294,000	74,722	1,450,489
Saskatchewan.....	8	2,310	456,219	135,619	13,601	605,439
Alberta.....	—	5,555	898,615	146,340	30,102	1,075,057
British Columbia.....	120	53,851	1,413,095	490,601	88,963	1,992,659
Yukon Territory.....	—	—	1,099	3,436	644	5,179
Departmental Sales.....	187,337	100	197,663	—	—	197,663
British Post Office Parcels.....	—	—	—	445	—	445
Totals.....	188,125	278,576	30,288,255	4,196,969	886,682	35,371,906

11.—Amounts Collected under the Income War Tax Act and the Business Profits War Tax Act, by Provinces, fiscal years ended Mar. 31, 1930 and 1931.

Province.	1930.			1931.		
	Income War Tax.	Business Profits War Tax.	Total.	Income War Tax.	Business Profits War Tax.	Total.
	\$	\$	\$	\$	\$	\$
Prince Edward Island.....	45,179	—	45,179	45,671	—	45,671
Nova Scotia.....	647,213	689	647,902	666,009	—22	665,987
New Brunswick.....	611,978	—	611,978	612,947	—	612,947
Quebec.....	23,308,394	32,353	23,340,747	23,087,571	5,497	23,093,068
Ontario.....	33,128,632	124,582	33,253,214	34,713,871	26,655	34,740,526
Manitoba.....	3,707,769	10,356	3,718,125	3,537,771	—	3,537,771
Saskatchewan.....	1,037,406	955	1,038,360	932,954	—	932,954
Alberta.....	2,000,979	3,541	2,004,521	2,316,043	2,300	2,318,343
British Columbia.....	4,495,649	825	4,496,474	5,106,454	—	5,106,454
Yukon.....	19,857	—	19,857	19,034	—	19,034
Head Office.....	17,670	—	17,670	9,697	—	9,697
Totals.....	69,020,726	173,301	69,194,027	71,048,022	34,430	71,082,452

Subsection 4.—Inland Revenue.

Under the Inland Revenue Act (R.S.C., 1906, c. 5), the Department of Inland Revenue until 1918 had the control and management of standard weights and measures and of the collection of excise duties, of stamp duties, internal taxes, bridge and ferry tolls and rents. It administered the Statutes which dealt with the adulteration of food and other articles, electricity and gas inspection, patent medicines, petroleum, naphtha and the analysis of fertilizers and feeding stuffs. This Department also established the food standards, which were put into force by Orders in Council under the authority of section 26 of the Adulteration Act. By Order in Council dated May 18, 1918, the Department of Customs and the Department of Inland Revenue were amalgamated and combined under the name of the Department of Customs and Inland Revenue, under one Minister of the Crown. By Order in Council dated June 3, 1918, the administration of the Gas, Electric Light, and Weights and Measures Inspection Acts, the Adulteration of Food, Commercial Feeding Stuff, Fertilizers, Proprietary and Patent Medicine, and Inspection of Water Meters Acts was transferred to the Department of Trade and Commerce, as from Sept. 1, 1918. On June 4, 1921, the Department of Customs and Inland Revenue was consolidated as the Department of Customs and Excise (11-12 George V., c. 26).

As from April 1, 1927, the name of this Department, which collects the greater bulk of the revenue of the Dominion, was changed to Department of National Revenue by authority of 17 Geo. V., c. 34. This Act provides for three chief departmental officers—the Commissioner of Customs, the Commissioner of Excise and the Commissioner of Income Tax, while an Assistant Commissioner of Customs may also be appointed. In the fiscal year ended Mar. 31, 1931, the gross amount of customs duties collected by the Department was \$149,250,992, as compared with \$199,011,628 in 1930, \$200,479,505 in 1929, \$171,872,768 in 1928 and \$158,966,367 in 1927. The total of excise duties and excise war taxes collected in the fiscal year ended Mar. 31, 1931, was \$93,986,975, as compared with \$129,822,444 in 1930 and \$148,376,494 in 1929. The total of income tax collected in the fiscal year ended Mar. 31, 1931, was \$71,048,022, and of business profits war tax \$34,430.

Canadian Excise Tariff.—The following is a statement of the Canadian excise tariff, as existing on July 1, 1931:—

Spirits—			
When made from raw grain, per proof gal.	\$ 9-00	Tobacco, per lb.	\$ 0-20
When made from malted barley	9-02	Cigarettes, weighing not more than 3 lb per thousand, per thousand	6-00
When made from imported molasses or other sweetened matter free of customs duty, per proof gal.	9-03	Cigarettes, weighing more than 3 lb. per thousand, per thousand	11-00
Malt, per lb.	0-03	Foreign raw leaf tobacco, unstemmed, per standard lb.	0-40
Malt, imported, crushed or ground, per lb.	0-05	Foreign raw leaf tobacco, stemmed, per standard lb.	0-60
Malt liquor, when made in whole or part from any other substance than malt, per gal.	0-15	Canada twist tobacco, per lb.	0-20
		Snuff, per lb.	0-20
		Cigars, per thousand	3-00

When, however, any person is licensed by the Minister of National Revenue to manufacture patent and proprietary medicines, extracts, essences and pharmaceutical preparations by the use of spirits in bond, subject to the Excise Act and regulations thereunder, the following duties of excise are collected: when made from raw grain, \$2.40 per proof gallon; when made from malted barley, \$2.42 per proof gallon; when made from imported molasses or other sweetened matter free of customs duty, \$2.43 per proof gallon. Druggists, licensed by the Minister of National Revenue to prepare prescriptions for medicines and pharmaceutical preparations, are also allowed to use limited quantities of spirits, testing not less than 50 p.c. over proof, on payment of the above lower manufacturers' rates of duty. A drawback of 99 p.c. of the duty may be granted when domestic spirits, testing not less than 50 p.c. over proof, are delivered in limited quantities to universities, scientific or research laboratories, or to hospitals for medicinal purposes only.

Revenue from Excise Duties.—The inland revenue collected from excise duties, other than war taxes, is shown by items for the last six fiscal years in Table 12. Tobacco, including cigarettes, is shown by the figures to be supplying about 71 p.c. of the revenue from excise duties.

12.—Details of Excise Duties Collected, fiscal years ended Mar. 31, 1926-31.

(Accrued revenues as shown in the Report of the Commissioner of Excise.)

Item.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Spirits.....	10,932,578	13,904,584	18,267,537	19,344,599	18,534,658	11,821,701
Malt liquor.....	113,933	223,833	239,245	351,440	347,648	388,827
Malt.....	3,840,774	3,811,557	4,277,066	4,756,945	4,495,651	4,140,360
Tobacco.....	27,919,051	30,638,418	34,702,359	39,307,618	41,671,417	41,701,767
Cigars.....	539,300	536,845	549,896	576,883	593,052	537,315
Acetic acid.....	100	150	150	150	150	200
Manufactures in bond.....	17,250	17,350	17,709	17,020	17,950	17,150
Other receipts.....	7,245	7,176	8,170	7,673	8,322	7,749
Totals.....	43,370,231	49,139,913	58,062,123	64,362,328	65,668,848	58,615,069

Statistics of Licences and Distillation.—As a by-product of the collection of excise duties, statistics are compiled of excise licences issued and of distillation; figures for recent years are given in Tables 13 and 14.

13.—Number of Excise Licences Issued, fiscal years ended Mar. 31, 1925-31.

Description.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	No.	No.	No.	No.	No.	No.	No.
Distillers.....	16	18	20	23	25	28	27
Brewers and maltsters.....	79	87	93	93	95	94	98
Tobacco manufacturers.....	70	65	56	58	57	56	56
Cigar manufacturers.....	113	110	106	90	83	82	70
Petroleum refiners.....	18	21	21	22	21	22	22
Manufacturers in Bond—							
Perfumes, pharmaceutical preparations, etc.....	348	343	345	346	330	338	33
Chemical stills.....	164	156	151	152	144	135	133
Wood alcohol manufacturers.....	7	8	6	6	6	8	8
Malt vinegar brewers.....	3	3	3	3	4	4	4
Still manufacturers and importers.....	17	18	24	26	24	29	25
Acetic acid manufacturers.....	2	2	3	3	3	3	3
Bonded warehouses.....	46	41	42	62	51	49	48
Rectifiers.....	1	1	—	—	—	—	—
Compounders.....	2	2	3	3	4	6	3
Canadian leaf stemmers.....	—	—	8	9	10	10	9

14.—Statistics of Distillation, fiscal years ended Mar. 31, 1926-31.

Schedule.	1926.	1927.	1928.	1929.	1930.	1931.
Licences issued.....No	18	20	23	25	28	27
Licence fees.....\$	4,500	5,000	6,125	6,625	7,750	6,125
Grain, etc., for Distillation—						
Malt.....lb.	6,109,455	12,650,807	25,116,100	39,170,372	42,064,219	19,519,949
Indian corn....."	37,496,955	62,478,906	78,871,584	106,112,316	114,942,991	35,879,402
Rye....."	12,506,822	21,129,081	53,617,695	80,449,536	78,075,195	47,421,646
Oats and other grain....."	380,385	283,950	139,184	228,102	257,510	64,150
Wheat....."	46,800	1,616,020	249,660	—	—	—
Rice....."	—	—	—	84,523	58,330	—
Total grain used....."	56,540,417	98,158,764	157,994,223	226,044,849	235,398,245	102,885,147
Molasses used....."	45,051,831	68,847,431	49,801,495	78,099,601	61,036,607	70,304,701
Proof spirits manufactured.....proof gal.	5,434,329	9,121,051	11,596,200	16,816,312	16,813,433	9,286,780
Duty Collected Ex-manufactory on Deficiencies and Assessment—						
Proof gallons.....	6,153	1,585	3,817	131	312	965
Amount.....\$	55,480	14,272	34,422	1,178	2,813	8,677
Total duty collected plus licence fees.....\$	59,980	19,272	40,547	7,803	10,563	14,802

Alcohol and Tobacco Taken out of Bond.—In Table 15 are shown the quantities of spirits, malt liquor, malt, cigars, cigarettes and tobacco taken out of bond for consumption in the fiscal years ended 1901 to 1931.

Between 1920 and 1931 the number of cigars taken out of bond fell from 270,089,761 to 177,841,987 and the quantity of tobacco from 23,049,012 lb. to 22,520,345 lb. On the other hand, the consumption of cigarettes increased from 2,440,982,912 to 5,082,314,590.

Between 1923 and 1931 spirits taken out of bond (exclusive of imported spirits) has risen from 729,678 gal. to 1,180,536 gal., although there has been a decided drop since 1929 when the figure was 2,016,802 gal. Malt liquor shows an increase of from 36,789,195 gal. to 58,641,404 gal. over the same period.

15.—Quantities of Spirits, Malt Liquor, Malt and Tobacco Taken Out of Bond for Consumption, fiscal years ended 1901-31.

(For earlier years see 1916-17 Year Book, p. 528.)

Fiscal Year.	Spirits. ¹	Malt Liquor.	Malt.	Cigars.	Cigarettes.	Tobacco. ³
	gal.	gal.	lb.	No.	No.	lb.
901.....	2,707,919	25,108,254	64,723,616	141,096,889	121,383,584	11,330,345
902.....	2,933,183	27,623,767	71,440,519	151,780,516	134,236,034	11,569,632
903.....	2,979,268	25,755,154	67,608,157	168,290,422	176,435,240	12,507,944
904.....	3,481,287	27,335,985	75,430,347	180,485,202	211,302,041	12,574,524
905.....	3,112,843	30,330,370	75,517,352	186,110,777	250,860,387	13,444,611
906.....	3,545,785	33,250,637	85,699,102	193,827,342	269,334,939	14,517,911
907 ²	3,033,439	26,505,831	69,176,871	154,253,260	266,377,710	11,318,538
908.....	3,918,657	38,800,380	98,579,733	200,133,255	384,809,344	15,971,609
909.....	3,627,266	37,317,964	92,631,306	192,105,371	356,756,130	17,217,710
910.....	3,777,156	38,558,210	95,166,134	205,820,851	451,095,138	17,961,279
911.....	4,146,452	41,752,448	101,525,430	227,585,692	585,935,370	18,903,322
912.....	4,562,382	47,518,047	114,029,523	252,718,242	782,663,841	21,419,046
913.....	4,999,937	52,314,400	123,920,607	294,772,933	977,743,301	22,371,636
914.....	4,762,618	56,060,846	133,794,639	288,219,892	1,166,023,170	22,248,760
915.....	4,021,090	47,963,225	111,037,743	236,866,542	1,090,125,936	21,180,857
916.....	3,629,324	39,638,877	89,476,590	207,647,808	1,082,324,710	20,698,241
917.....	4,118,147	34,827,284	78,815,746	239,752,252	1,307,276,750	20,735,080
918.....	4,591,972	28,442,427	59,626,049	254,445,945	1,664,709,933	21,780,168
919.....	2,941,108	26,024,117	49,184,747	221,087,110	1,553,468,890	19,980,446
920.....	3,816,124	36,863,867	69,975,631	270,089,761	2,440,982,912	23,049,012
921.....	2,816,071	35,509,757	82,210,351	214,262,197	2,439,832,278	19,389,268
922.....	3,730,474	38,404,346	87,561,176	181,255,533	2,450,397,154	20,528,228
923.....	729,678	36,789,195	84,922,024	183,965,151	1,917,773,908	22,072,709
924.....	899,291	43,717,823	105,446,169	198,042,909	2,420,052,731	21,172,307
925.....	910,316	48,106,177	118,237,385	168,097,387	2,531,693,150	20,870,651
926.....	1,082,785	52,443,505	127,789,729	174,363,188	2,883,448,160	21,595,483
927.....	1,404,111	51,726,251	126,967,976	175,335,838	3,333,999,860	21,589,772
928.....	1,896,357	58,391,360	142,543,947	181,730,614	3,927,022,325	21,907,747
929.....	2,016,802	65,719,129	158,490,019	190,981,166	4,607,500,425	21,973,221
930.....	1,926,063	62,992,156	149,746,711	196,251,957	5,035,878,655	22,195,455
931.....	1,180,536	58,641,404	137,997,652	177,841,987	5,082,314,590	22,520,345

¹Exclusive of imported spirits.²Nine months.³Including snuff.

Subsection 5.—Provincial Subsidies.

Tables 16 and 17 show the subsidies for individual years and other payments made by the Dominion to the Provincial Governments for each of the fiscal years ended from 1926 to 1931 (Table 16), and the totals paid from Confederation to 1931 (Table 17). The provincial subsidies payable by the Dominion Government were originally settled by the British North America Act, 1867 (30 and 31 Vict., c. 3, s. 118) but were revised by the British North America Act, 1907 (7 Edw. VII, c. 11). Under the revised settlement each Provincial Government receives: (a) a fixed grant according to population and (b) a grant at the rate of 80 cents per head of the population up to 2,500,000, and at the rate of 60 cents per head of so much of the population as exceeds that number. The province of British Columbia received an additional grant of \$100,000 per annum for a period of 10 years from 1907.¹ An additional grant of \$100,000 per annum is payable to Prince Edward Island under an Act of 1912 (2 Geo. V, c. 42), and the payments to Manitoba were revised by the Extension of Boundaries (Manitoba) Act, 1912 (2 Geo. V, c. 32); for 1931 an amount of \$4,822,843 was paid as a readjustment in lieu of public lands from 1870 to 1908 as provided, for in the Manitoba Natural Resources Act, 1930. Other payments to the Provincial Governments by the Dominion Government consist of special grants, such as compensation for lands, allowances for buildings, allowance in lieu of debt, etc.

¹See Canada Year Book, 1907, pp. xxxii-iv.

16.—Subsidies of Dominion to Provincial Governments, fiscal years ended 1926-31.

Province.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Prince Edward Island.....	381,932	381,932	381,932 ¹	381,932 ¹	381,932 ¹	381,932 ¹
Nova Scotia.....	661,841	661,841	661,841 ¹	661,841 ¹	661,841 ¹	661,841 ¹
New Brunswick.....	666,766	666,766	666,766 ¹	666,766 ¹	666,766 ¹	666,766 ¹
Quebec.....	2,256,420	2,256,420	2,256,420	2,256,420	2,256,420	2,256,420
Ontario.....	2,642,612	2,642,612	2,642,612	2,642,612	2,642,612	2,642,612
Manitoba.....	1,501,551	1,491,836	1,491,836	1,500,214	1,508,591	6,478,619
Saskatchewan.....	1,850,755	2,032,575	2,032,575	2,047,935	2,063,295	1,938,295
Alberta.....	1,674,435	1,643,942	1,643,942	1,657,188	1,576,685	1,670,435
British Columbia.....	738,816	738,816	738,816	738,817	738,817	738,817
Totals.....	12,375,128	12,516,740	12,516,740	12,553,725	12,496,959	17,435,738

¹For the years 1928, 1929, 1930 and 1931 special grants, pending consideration of provincial subsidies, were granted to Nova Scotia, New Brunswick and Prince Edward Island as follows: Nova Scotia \$875,000, New Brunswick \$600,000, Prince Edward Island \$125,000.

17.—Total of Subsidy Allowances from July 1, 1867 to Mar. 31, 1931.

Province.	Allowances for Government.	Allowances on basis of Population.	Special Grants. ¹	Interest on Debt Allowances. ²	Total.
	\$	\$	\$	\$	\$
Prince Edward Island.....	3,420,000	4,963,654	4,196,664	2,447,687	15,028,006
Nova Scotia.....	6,960,000	22,081,179	826,980	3,024,397	32,892,556
New Brunswick.....	6,320,000	16,798,350	9,330,000	1,318,240	33,766,591
Quebec.....	8,560,000	75,757,874	—	4,814,410	89,132,284
Ontario.....	8,960,000	94,401,958	—	4,458,861	107,820,819
Manitoba.....	6,165,000	15,057,107	18,206,733	12,205,867	51,634,707
Saskatchewan.....	4,836,667	13,075,244	14,781,250	10,539,750	43,232,910
Alberta.....	4,586,666	10,175,633	13,406,250	10,539,750	38,708,299
British Columbia.....	5,560,000	10,511,136	7,000,000	1,758,848	24,829,984
Totals.....	55,368,333	262,822,135	67,747,877	51,107,809	437,046,156

¹Compensation for lands and allowances for buildings.

²Allowances in lieu of debt.

Subsection 6.—National Debt.

The gross national debt of Canada on Mar. 31, 1914, was \$544,391,369, as against assets of \$208,394,519, leaving a net debt of \$335,996,850. Comparatively small as was this debt, it was a debt incurred almost altogether either for public works of general utility which, like the Intercolonial and transcontinental railways and the canal system, remained assets, though perhaps not realizable assets of the nation, or was expended as subsidies to enterprises, which, like the Canadian Pacific Railway, though not government-owned, assisted greatly in extending the area of settlement as well as the productive and, therefore, the taxable capacity of the country. Broadly speaking, it was a debt incurred for productive purposes. Also, it was mainly held outside the country, the principal of the Dominion funded debt payable in London being \$302,842,485 on Mar. 31, 1914, as against only \$717,455 payable in Canada.

The great changes brought about in our national debt during the 17 years from 1914 to 1931 have been: (1) the enormous increase in net debt from \$335,996,850 to \$2,261,611,937; (2) the gross debt, having been largely incurred for war purposes, is not represented by corresponding assets; (3) the debt is now mainly held in Canada, \$1,800,264,602 being payable in Canada at Mar. 31, 1931; (4) the

average rate of interest paid on interest-bearing debt has been considerably increased. The interest-bearing debt on Mar. 31, 1914, was \$416,892,576, with an annual interest charge of \$14,687,797, the average interest rate being thus only 3.52 p.c. On Mar. 31, 1922, the interest-bearing debt was \$2,669,967,110, with an interest charge of \$137,881,774, the average rate of interest paid being 5.164 p.c. Had the rate of interest in 1922 been the same as in 1914, the interest charge in that year would have been some \$44,000,000 less than it actually was. Since 1922 the maturity of certain loans has enabled the Government to refund at lower and more normal peace-time rates of interest with the result that the average rate of interest payable on the national debt has been slowly declining, standing at 4.928 p.c. on Mar. 31, 1931. Further, in these same nine years the principal sum of the interest-bearing debt has been reduced by \$185,140,381. The net result of these two achievements is that the annual interest charge has, in the nine years, been reduced by the substantial amount of \$15,420,668.

The interest-bearing debt, the annual interest charge upon that debt and the average rate of interest, as at the end of each of the last twelve fiscal years, have been as follows:—

Fiscal Year.	Bonds, Debentures and Treasury Bills.	Annual Interest Charges on Bonds, Debentures and Treasury Bills.	Savings Bank Deposits, Trust and other Funds.	Annual Interest on Savings Bank Deposits and other Funds.	Total Interest Bearing Debt. ¹	Annual Interest Charge.	Average Rate of Interest.
	\$	\$	\$	\$	\$	\$	p.c.
1920.....	2,596,816,821	134,559,302	107,038,317	4,275,480	2,703,855,138	138,834,782	5.134
1921.....	2,520,997,021	130,416,007	107,345,348	4,429,302	2,628,342,369	134,845,309	5.130
1922.....	2,564,587,671	133,482,113	105,379,439	4,399,661	2,669,967,110	137,881,774	5.164
1923.....	2,547,105,821	131,476,511	106,763,391	4,531,156	2,653,869,212	136,007,667	5.125
1924.....	2,504,033,820	128,571,337	110,113,766	4,626,715	2,614,147,586	133,198,052	5.092
1925.....	2,503,763,169	125,928,071	113,943,282	4,758,780	2,617,706,451	130,686,851	4.992
1926.....	2,484,410,336	125,108,738	119,205,393	4,977,889	2,603,615,729	130,086,627	4.996
1927.....	2,439,340,736	123,399,911	126,310,527	5,274,429	2,565,651,263	128,674,340	5.015
1928.....	2,377,581,086	119,479,400	136,485,482	5,721,330	2,514,066,568	125,200,730	4.980
1929.....	2,325,413,986	116,843,934	145,780,369	6,156,036	2,471,194,355	122,999,970	4.977
1930.....	2,250,837,286	112,942,215	154,997,435	6,572,018	2,405,834,721	119,514,233	4.967
1931.....	2,320,832,286	115,491,955	163,994,443	6,969,151	2,484,826,729	122,461,106	4.928

¹ The total of interest-bearing debt, as here given, includes bonds purchased and held by the treasury for sinking funds.

A summary account of the loans effected between 1914 and 1931 follows.

War and Renewal Loans.—The first Dominion domestic war loan was raised in November, 1915, under authority of c. 23 of the Statutes of that year (5 Geo. V, c. 23). It originally consisted of \$50,000,000 5 p.c. tax-exempt 10-year gold bonds, issued at 97½ and maturing Dec. 1, 1925. As the issue was heavily over-subscribed (public subscriptions by 24,862 subscribers \$78,729,500, bank subscriptions \$25,000,000) and the extra money was needed, the Government increased the amount of the loan to \$100,000,000. In July, 1915, \$25,000,000 of 1-year and 20,000,000 of 2-year 5 p.c. notes had been floated in the United States, with the object of stabilizing exchange and relieving the pressure on London.

In September, 1916, the second Canadian domestic war loan of \$100,000,000 p.c. tax-exempt 15-year gold bonds was issued and again over-subscribed (public subscriptions by 34,526 subscribers \$151,444,800, bank subscriptions \$50,000,000). In March of that year, a loan of \$75,000,000 in 5-, 10-, and 15-year 5 p.c. bonds had been floated in New York.

The third Canadian domestic war loan, composed of \$150,000,000 5 p.c. tax-exempt 20-year gold bonds, was issued at 96 in March, 1917, and was again oversubscribed, 40,800 public subscribers applying for \$200,768,000, while the banks subscribed \$60,000,000. In August, 1917, \$100,000,000 of 5 p.c. 2-year notes were issued in New York at 98.

The fourth domestic war loan (First Victory Loan) was issued in November 1917. For the first time subscriptions as low as \$50 were received towards an issue of \$150,000,000 5½ p.c. 5-, 10-, and 20-year gold bonds, the Minister of Finance reserving the right to allot the whole or any part of the amount subscribed in excess of \$150,000,000. The subscribers numbered 820,035 and the subscriptions totalled \$398,000,000, or about \$50 per head of the then population of Canada.

The fifth domestic war loan (Second Victory Loan) of \$300,000,000 5½ p.c. 5- and 15-year tax-exempt gold bonds, was issued at 100 and interest as of date Nov. 1, 1918; the end of the war, then clearly in sight, stimulated subscriptions. The applications numbered 1,067,879 and subscriptions totalled \$660,000,000.

The sixth domestic war loan (Third Victory Loan) was raised at 100 and interest in November, 1919. It consisted of \$300,000,000 taxable 5-year and 15-year 5½ p.c. gold bonds. The subscriptions amounted to \$678,000,000.

A 5½ p.c. renewal loan, aggregating \$114,464,150 and due in 1927 and 1932, was floated in Canada in the autumn of 1922 to pay off the maturing 5-year Victory Loan bonds of 1917. Largely for the same purpose, a \$100,000,000 5 p.c. loan was issued in New York.

In the autumn of 1923 a refunding loan of \$20,000,000 at 5 p.c. was issued in Canada to pay off the maturing 5-year Victory Loan bonds of 1918.

Refunding operations in 1924, to retire \$107,955,650 5-year Victory bonds issued in 1919, and to redeem treasury bills held by banks, took the form of a domestic issue of \$50,000,000 4½ p.c. 20-year bonds and \$35,000,000 4 p.c. 2-year notes and a short term issue in the New York market of \$90,000,000 4 p.c. 1-year treasury notes. An issue of \$24,000,000 in 4 p.c. 1-, 2- and 3-year notes (\$8,000,000 of each) was also made in November, 1924.

A refunding loan of \$75,000,000 at 4½ p.c. due 1940 was issued in Canada in September, 1925, and 4 p.c. 1-year notes amounting to \$70,000,000 in New York. Securities redeemed included £5,000,000 4½ p.c. bonds due in London, \$90,000,000 4 p.c. notes due in New York, also \$8,000,000 4 p.c. notes and \$42,014,500 5 p.c. bonds of the 1915 war loan due in Canada.

In 1926, refunding issues dated Feb. 1, were made as follows: In Canada \$20,000,000 4½ p.c. 4-year bonds and \$45,000,000 4½ p.c. 20-year bonds; in New York, \$40,000,000 4½ p.c. 10-year bonds. Maturing securities included \$25,000,000 5 p.c. bonds due in New York April 1, and \$70,000,000 4 p.c. notes called for redemption April 1.

In 1927, \$45,000,000 of 4 p.c. treasury notes due Dec. 1, 1930, were issued in order to retire maturing 5½ p.c. obligations.

In 1930, \$45,000,000 3-year 4 p.c. treasury notes, issued on Dec. 1, 1927, matured, and were replaced by the issue of 2-year treasury notes for \$40,000,000 at 4 p.c. maturing Dec. 1, 1932, the balance of \$5,000,000 being paid from cash. These were sold at par to Canadian chartered banks. On Oct. 1, 1930, a 4 p.c. loan of \$100,000,000 maturing Oct. 1, 1960, was issued in New York. It was sold at a price of 93.646, or at a cost of 4.38 p.c. per annum. Principal and interest are payable in New York funds.

The general result of these loans has been that in 1931 the great bulk of the Canadian national debt was owed to the Canadian people. At the end of the fiscal year 1930-31 the net funded debt of Canada payable in London was \$253,512,034; the debt payable in New York, \$265,896,300; while the net funded debt payable in Canada amounted to no less than \$1,800,264,602. The largest creditors of the Dominion Government are within the Dominion itself and, as a consequence, the interest payments made on national debt account outside the country are a relatively small item. Summary and detailed statistics of the national debt as on Mar. 31, 1931, are given with comparative figures for previous years in Tables 18 to 21, while Table 22 shows the principal and interest of the national debt at Confederation and in each subsequent fiscal year.

18.—Summary of the Public Debt of Canada, Mar. 31, 1925-31.

Item.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$	\$
Gross debt.....	2,818,066,523	2,768,779,184	2,726,298,717	2,677,137,243	2,647,033,973	2,544,586,411	2,610,265,698
Active assets....	400,628,837	379,048,085	378,464,347	380,287,010	421,529,268	366,822,452	348,653,762
Net Debt....	2,417,437,686	2,389,731,099	2,347,834,370	2,296,850,233	2,225,504,705	2,177,763,959	2,261,611,936
Interest paid on debt.....	134,789,604	130,691,493	129,675,367	128,902,945	124,989,950	121,566,213	121,289,844
Interest received on investments....	11,332,328	8,535,086	8,559,401	10,937,822	12,227,562	13,518,205	10,421,224

19.—Details of the Assets of the Public Debt of Canada, Mar. 31, 1927-31.

Item.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Cash on hand and in banks.....	22,182,119	45,829,382	82,410,885	27,991,597	44,599,432
Specie reserve.....	100,935,933	95,352,703	60,791,334	65,927,474	81,457,889
Advances to banks, provinces, etc.....	97,452,299	114,752,859	166,080,660	140,578,126	111,454,050
Advances to Imperial and Foreign Govts.....	35,985,138	31,249,720	31,049,720	30,834,720	30,609,720
Advances to Soldier Settlement Board.....	84,149,967	69,410,199	58,175,573	57,036,174	48,150,885
Miscellaneous current accounts.....	37,758,891	23,692,147	23,021,087	44,454,361	32,381,786
Totals.....	378,464,347	380,287,010	421,529,268	366,822,452	348,653,762

20.—Details of the Gross Liabilities of Canada, Mar. 31, 1927-31.

Item.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Funded debt payable in—					
London.....	267,649,036 ¹	264,230,350 ¹	260,768,038 ¹	257,185,700 ¹	253,512,033 ¹
Canada.....	1,941,852,161 ¹	1,870,049,325 ¹	1,823,839,934 ¹	1,804,977,029 ¹	1,800,264,602 ¹
New York.....	225,894,000	225,879,000	220,457,800	165,965,900	265,896,300
Dominion notes.....	172,167,639	188,631,490	204,501,217	174,326,618	141,066,257
Savings banks.....	31,922,043	31,103,776	28,375,770	26,086,036	24,750,227
Temporary loans.....	201,000	201,000	—	—	—
Bank Note Circulation Redemption Fund.....	5,849,030	5,929,219	6,098,583	6,363,362	6,788,162
Trust funds.....	18,460,169	19,755,617	20,337,483	20,976,277	20,329,745
Province accounts.....	9,623,816	9,623,817	9,623,817	9,623,817	9,623,817
Miscellaneous.....	52,679,823	61,733,649	73,031,331	79,081,672	88,034,555
Totals.....	2,726,298,717	2,677,137,243	2,647,033,973	2,544,586,411	2,610,265,698

¹ Net figures, with amounts held as sinking funds deducted.

21.—Funded Debt Payable in London, New York and Canada, as at Mar. 31, 1931.

NOTE.—The temporary loans formerly included in this table have been paid off. (See Table 23.)

Description.	Amount.	Annual Interest Payable Thereon.	Date of Maturity.
PAYABLE IN LONDON.	\$	\$	
4 per cent loan of 1940-60.....	93,926,667	3,757,067	Oct. 1, 1960 (on or after Oct. 1940,giving 3 months' notice..)
3½ " " of 1884.....	23,467,206	821,352	On giving 6 months' notice, at June 1, 1934.
3½ " " C.P. Ry. land grant.....	15,056,007	526,960	July 1, 1938.
3½ " " of 1930-50.....	137,058,841	4,797,059	July 1, 1950 (on or after July 1930, on giving 6 months' notice).
3 " " of 1888.....	8,071,230	242,137	July 1, 1938.
3 " " of 1892.....	18,250,000	547,500	July 1, 1938.
3 " " of 1894.....	10,950,000	328,500	July 1, 1938.
2½ " " of 1897.....	4,888,186	122,205	Oct. 1, 1947.
Unpaid debentures.....	17,236	-	-
Gross Totals.....	311,685,373	11,142,780	
Less sinking funds.....	58,173,339	-	
Net Total.....	253,512,034	-	
PAYABLE IN NEW YORK.	\$	\$	
5 per cent bond loan, 1915-1935.....	\$74,000	43,700	Aug. 1, 1935.
5 " public service loan, 1916.....	1,000	-	Overdue.
5 " " "	25,000,000	1,250,000	April 1, 1931.
5½ " bond loan, 1922-1952.....	100,000,000	5,000,000	May 5, 1952.
5½ " " 1919-1929.....	21,300	-	Overdue.
4½ " ten-year bonds.....	40,000,000	1,800,000	Feb. 1, 1936.
4 " bond loan, 1930-1960.....	100,000,000	2,000,000	Oct. 1, 1960.
Totals.....	265,896,300	10,093,700	
PAYABLE IN CANADA.	\$	\$	
Provincial notes, Nova Scotia.....	39,180	-	
Unpaid warrants, Prince Edward Island.....	550	-	
Compensation to seigneurs.....	12,140	728	
Compensation to townships.....	153	8	
Province of New Brunswick, 6 p.c. loan debentures.....	600	-	Overdue.
Province of Canada, 5 p.c. loan debentures.....	400	-	"
Dominion stock, issue A, 6 p.c.....	4,000	240	-
" B, 3½ p.c.....	17,200	602	Various dates.
" C, 3½ p.c.....	48,667	1,703	"
Debentures stock, 1919.....	2,000	-	Overdue.
" 5 p.c. (school lands).....	33,129,000	1,656,450	
" 1921.....	200	-	Overdue.
War Savings Certificates.....	13,745	-	"
Dominion of Canada Savings Certificates.....	11,625	-	"
War Savings and Thrift Stamps.....	88,746	-	"
Dominion of Canada War Loan, 1915-25, 5 p.c.....	26,700	-	"
" " 1916-31, 5 p.c.....	52,929,600	2,646,480	Oct. 1, 1931.
" " 1917-37, 5 p.c.....	90,166,900	4,508,345	Mar. 1, 1937.
Victory Loan, 1917, 5½ p.c., due 1922.....	76,750	-	Overdue.
" " due 1927.....	73,900	-	"
" " due 1937.....	236,299,800	12,996,489	Dec. 1, 1937.
Victory Loan, 1918, 5½ p.c., due 1923.....	88,150	-	Overdue.
" " due 1933.....	446,659,950	24,566,297	Nov. 1, 1933.
Victory Loan, 1919, 5½ p.c., due 1924.....	47,650	-	Overdue.
" " due 1934.....	511,910,650	28,155,086	Nov. 1, 1934.
Renewal Loan, 1922, 5½ p.c., due 1927.....	25,550	-	Overdue.
" " due 1932.....	73,323,150	4,032,773	Nov. 1, 1932.
Refunding Loan, 1923, 5 p.c., due 1928.....	20,600	-	Overdue.
" " due 1943.....	147,000,100	7,350,005	Oct. 15, 1943.
Refunding Loan, 1924, 4½ p.c., due 1944.....	50,000,000	2,250,000	Oct. 15, 1944.
Refunding Loan, 1925, 4½ p.c., due 1940.....	75,000,000	3,375,000	Sept. 1, 1940.
Refunding Loan, 1926, 4½ p.c., due 1946.....	45,000,000	2,025,000	Feb. 1, 1946.
Two Year Treasury Notes, 4 p.c., due Dec. 1, 1932.....	40,000,000	1,600,000	Dec. 1, 1932.
Gross Totals.....	1,802,017,656	97,165,207	
Less sinking funds.....	1,733,054	-	
Net Totals.....	1,800,284,602	97,165,207	

In addition to the direct liabilities of the Government of Canada, there are certain indirect liabilities arising out of the guaranteeing of securities for the railways, both before and after their acquisition by the public. The outstanding railway securities guaranteed as to principal and interest amounted on Mar. 31, 1931, to \$707,474,852 held by the public and \$58,157,952 held by the Minister of Finance. The amount guaranteed as to interest only (Grand Trunk Railway acquisition guarantees) was at the same date \$216,207,142.

There were also certain smaller indirect liabilities arising out of the guaranteeing of loans issued by Harbour Commissions, etc., for the improvement of harbour and other transportation facilities. The total of the outstanding indirect obligations created by these loans was \$31,235,118 on Mar. 31, 1931.

The list of securities guaranteed by the Dominion Government was, at Mar. 31, 1931, as follows:—

Security.	Amount of Guarantee Authorized.	Amount Outstanding at Mar. 31, 1931.	
		Held by the Public.	Held by the Minister of Finance.
Railway Securities Guaranteed as to Principal and Interest—	\$	\$	\$
1. Canadian Northern Ry. Co., 3 p.c. deb. stock, due 1953, £1,923,287.....	9,359,997	9,359,997	-
2. Canadian Northern Ry. Co., 3½ p.c. deb. stock, due 1958, £1,622,586-19-9.....	7,896,590	7,896,567	-
3. Canadian Northern Ontario Ry. Co., 3½ p.c. deb. stock, due 1961, £7,350,000.....	35,770,000	34,229,997	1,540,003
4. Canadian Northern Alberta Ry. Co., 3½ p.c. deb. stock, due 1960, £647,260-5-6.....	3,150,000	3,149,999	-
5. Grand Trunk Pacific Ry. Co., 3 p.c. bonds, due 1962, £14,000,000.....	68,040,000	34,992,000	33,048,000
6. Canadian Northern Alberta Ry. Co., 3½ p.c. deb. stock, due 1962, £733,561-12-10.....	3,570,000	-	3,569,997
7. Canadian Northern Ry. Co., 4 p.c. deb. stock and bonds, due 1934.....	45,000,000	17,060,333	12,500,000
8. Grand Trunk Pacific Ry. Co., 4 p.c. bonds due 1962, £3,280,000.....	15,940,800	8,440,848	7,499,952
9. Canadian Northern Ry. Co., 7 p.c. bonds, due 1940.....	25,000,000	24,793,000	-
10. Grand Trunk Ry. Co., 7 p.c. bonds, due 1940.....	25,000,000	24,743,000	-
11. Canadian Northern Ry. Co., 6½ p.c. bonds, due 1946.....	25,000,000	25,000,000	-
12. Grand Trunk Ry. Co., 6 p.c. bonds, due 1936.....	25,000,000	25,000,000	-
13. Canadian National Ry. Co., 5 p.c. serial equipment bonds, 1923-38.....	22,500,000	12,750,000	-
14. Canadian National Ry. Co., 5 p.c. bonds, due 1954.....	50,000,000	50,000,000	-
15. Canadian National Ry. Co., 4½ p.c. bonds, due 1954.....	26,000,000	26,000,000	-
16. Canadian Northern Ry. Co., 4½ p.c. bonds, due 1935.....	17,000,000	17,000,000	-
17. Canadian National Ry. Co., 1927, 2 p.c. guar. deb. stock, £7,176,801.....	34,927,098	31,675,552	-
18. Canadian National Ry. Co., 4½ p.c. gold bonds, due 1957.....	65,000,000	65,000,000	-
19. Canadian National Ry. Co., 4½ p.c. gold bonds, due 1968.....	35,000,000	35,000,000	-
20. Canadian National Ry. Co., 5 p.c. gold bonds, due July 1, 1969.....	60,000,000	60,000,000	-
21. Canadian National Ry. Co., 5 p.c. gold bonds, due Oct. 1, 1969.....	60,000,000	60,000,000	-
22. Canadian National Ry. Co., 5 p.c. gold bonds, due 1970.....	18,000,000	18,000,000	-
23. Canadian National Ry. Co., 4½ p.c. gold bonds, due 1955.....	50,000,000	50,000,000	-
24. Canadian National Ry. Co., 4½ p.c. gold bonds, due 1956.....	70,000,000	70,000,000	-
	797,154,485	707,474,852	58,157,952
Railway Securities Guaranteed as to Interest only—			
25. Grand Trunk Ry. Acquisition Guarantees—			
Grand Trunk 4 p.c. perp. guar. stock, £12,500,000.....	60,833,333	60,833,333	-
Grand Trunk 5 p.c. perp. deb. stock, £4,270,375.....	20,782,492	20,782,492	-
Great Western 5 p.c. perp. deb. stock, £2,723,080.....	13,252,323	13,252,323	-
Grand Trunk 4 p.c. perp. deb. stock, £24,624,455.....	119,839,014	119,839,014	-
Northern Ry. of Canada, 4 p.c. perp. deb. stock, £308,215.....	1,499,980	1,499,980	-
	216,207,142	216,207,142	-
Other Securities Guaranteed as to Principal and Interest—			
26. Harbour Commissioners of Montreal, Montreal South Shore Bridge 5 p.c. bonds, due 1969.....	19,500,000	19,000,000	-
27. Canadian National (West Indies) Steamships Ltd., 5 p.c. bonds, due 1955.....	10,000,000	9,400,000	-
28. Saint John Harbour Commission—			
(a) Bonded indebtedness of the city of Saint John, assumed by the Commission.....	1,467,165	1,467,165	-
(b) Debentures of the Commission issued to the city of Saint John, due 1952.....	667,953	667,953	-
27. New Westminster Harbour Commissioners 4½ p.c. debentures, due 1948.....	700,000	700,000	-
	32,335,118	31,235,118	-

22.—Public Debt of Canada, July 1, 1867 to Mar. 31, 1931.

Fiscal Yr.	Total Debt.	Total Assets.	Net Debt.	Net Debt per capita.	Increase or Decrease of Debt during the Year. ¹	Interest Paid on Debt.	Interest Received from Active Assets.	Interest Paid per capita.
	\$	\$	\$	\$	\$	\$	\$	\$
1867.	93,046,052	17,317,410	75,728,642	22.73	—	—	—	—
1868.	96,896,666	21,139,531	75,757,135	22.47	28,493	4,501,568	126,420	1.00
1869.	112,361,998	36,502,679	75,859,319	22.23	102,184	4,907,014	313,021	1.00
1870.	115,993,706	37,783,964	78,209,742	22.64	2,350,423	5,047,054	383,956	1.00
1871.	115,492,683	37,786,165	77,706,518	22.09	—503,225	5,165,304	554,384	1.00
1872.	122,400,179	40,213,107	82,187,072	22.76	4,480,554	5,257,231	488,042	1.00
1873.	129,743,432	29,894,970	99,848,462	27.22	17,661,390	5,209,206	396,404	1.00
1874.	141,163,551	32,838,587	108,324,964	28.32	8,476,502	5,724,436	610,863	1.00
1875.	151,663,402	35,655,024	116,008,378	29.84	7,683,414	6,590,790	840,887	1.00
1876.	161,204,688	36,653,174	124,551,514	31.54	8,543,136	6,400,902	798,906	1.00
1877.	174,675,835	41,440,526	133,235,309	33.20	8,683,795	6,797,227	717,684	1.00
1878.	174,957,269	34,595,199	140,362,070	34.41	7,126,761	7,048,884	605,774	1.00
1879.	179,483,871	36,493,684	142,990,187	34.49	2,628,117	7,194,734	592,500	1.00
1880.	194,634,441	42,182,852	152,451,589	36.17	9,461,402	7,773,869	834,793	1.00
1881.	199,861,537	44,465,757	155,395,780	35.82	2,944,191	7,594,145	751,513	1.00
1882.	205,365,252	51,703,601	153,661,651	35.05	—1,734,129	7,740,804	914,009	1.00
1883.	202,159,104	43,692,390	158,466,714	35.75	4,805,063	7,668,552	1,001,193	1.00
1884.	242,482,416	60,320,566	182,161,850	40.61	23,695,136	7,700,181	986,698	1.00
1885.	264,703,607	68,295,915	196,407,692	43.27	14,245,842	9,419,482	1,997,936	2.00
1886.	273,164,341	50,005,234	223,159,107	48.63	26,751,415 ²	10,137,009	2,299,079	2.00
1887.	273,187,626	45,872,851	227,314,775	49.01	4,155,668	9,882,929	990,887	2.00
1888.	284,513,842	49,982,484	234,531,358	50.03	7,216,563	9,823,313	932,025	2.00
1889.	287,722,063	50,192,021	237,530,042	50.11	2,998,684	10,148,932	1,305,392	2.00
1890.	286,112,295	48,579,088	237,533,212	49.56	3,170	9,656,841	1,082,271	2.00
1891.	289,899,230	52,090,199	237,809,031	49.09	275,819	9,584,137	1,077,228	1.90
1892.	295,333,274	54,201,840	241,131,434	49.32	3,322,403	9,763,978	1,086,420	2.00
1893.	300,054,525	58,373,485	241,681,040	48.96	549,606	9,806,888	1,150,167	2.00
1894.	308,348,023	62,164,994	246,183,029	50.30	4,501,989	10,212,596	1,217,809	2.00
1895.	318,048,755	64,973,828	253,074,927	50.27	6,981,898	10,466,294	1,336,047	2.00
1896.	325,717,537	67,220,104	258,497,433	50.82	5,422,506	10,502,430	1,370,001	2.00
1897.	332,530,131	70,991,535	261,538,596	50.86	3,041,163	10,645,663	1,443,004	2.00
1898.	338,375,984	74,419,585	263,956,399	50.77	2,417,803	10,516,758	1,513,455	2.00
1899.	345,160,903	78,887,456	266,273,447	50.63	2,317,048	10,555,112	1,590,448	2.00
1900.	346,206,980	80,713,173	265,493,807	49.89	—779,640	10,699,645	1,683,051	2.00
1901.	354,732,433	86,252,429	268,480,004	49.69	2,988,197	10,807,955	1,784,834	2.00
1902.	366,358,477	94,629,387	271,729,090	49.13	3,349,086	10,975,935	1,892,224	1.90
1903.	361,344,098	99,737,109	261,606,989	46.11	—10,222,101 ³	11,068,139	2,020,953	1.90
1904.	364,962,512	104,094,793	260,867,719	44.78	—739,270 ⁴	11,128,637	2,256,256	1.90
1905.	377,678,580	111,454,413	266,224,167	44.43	5,356,448	10,630,115	2,105,031	1.70
1906.	392,269,680	125,426,703	266,842,977	43.27	818,810	10,814,687	2,140,312	1.70
1907.	379,966,826	116,294,966	263,671,860	41.84	—3,371,117	6,712,771	1,235,746	1.60
1908.	408,207,158	130,246,298	277,960,860	42.82	14,289,000	10,973,597	1,925,569	1.60
1909.	478,535,427	154,605,148	323,930,279	48.38	45,969,419	11,604,584	2,256,643	1.60
1910.	470,663,046	134,394,500	336,268,546	48.61	12,338,267	13,098,161	2,607,465	1.60
1911.	474,941,487	134,899,435	340,042,052	47.18	3,773,506	12,535,851	1,668,773	1.60
1912.	508,338,592	168,419,131	339,919,461	46.15	—122,591	12,259,397	1,281,317	1.60
1913.	483,232,555	168,930,930	314,301,625	41.76	—25,617,836	12,605,882	1,430,511	1.60
1914.	544,391,369	208,394,519	335,996,850	43.68	21,695,225	12,893,505	1,964,541	1.60
1915.	700,473,814	251,097,731	449,376,083	57.16	113,379,233	15,736,743	2,980,247	2.60
1916.	936,987,802	321,931,631	615,156,171	76.55	165,780,088	21,421,585	3,358,210	2.60
1917.	1,382,003,608	502,816,970	879,186,638	107.48	204,030,127	35,802,567	3,094,012	4.60
1918.	1,863,335,899	671,451,836	1,191,884,063	143.11	312,697,765	47,845,585	4,466,724	5.00
1919.	2,676,635,725	1,102,104,692	1,574,531,033	185.60	382,646,790	77,431,432	7,421,002	9.00
1920.	3,041,529,587	792,660,963 ⁵	2,248,868,624	260.54	674,337,591	107,527,089	17,086,981	12.00
1921.	2,902,482,117	561,603,135 ⁶	2,340,878,984	266.37	92,010,360	139,551,520	24,815,246	15.00
1922.	2,902,347,137	480,211,335 ⁶	2,422,135,802	271.57 ⁷	81,256,817	135,247,849	21,961,513	15.00
1923.	2,888,827,237	435,050,368 ⁸	2,453,776,869	272.37 ⁷	31,641,067	137,892,735	16,465,303	15.00
1924.	2,819,610,470	401,827,195 ⁸	2,417,783,275	264.47 ⁷	—35,993,594	136,237,872	11,916,479	14.00
1925.	2,818,066,523	400,628,837 ⁸	2,417,437,686	152.53 ⁷	—345,589	134,789,604	11,332,328	14.00
1926.	2,768,779,184	379,048,085 ⁸	2,389,731,099	252.88 ⁷	—27,706,587	130,691,493	8,535,086	13.80
1927.	2,726,298,717	378,464,347 ⁸	2,347,834,370	243.68 ⁷	—41,896,729	129,675,367	8,559,401	13.40
1928.	2,677,137,243	380,287,010 ⁸	2,296,850,233	283.59 ⁷	—50,984,137	128,902,945	10,937,822	13.10
1929.	2,647,033,973	421,629,268 ⁸	2,225,404,705	221.95 ⁷	—71,345,528	124,989,950	12,267,562	12.40
1930.	2,544,586,411	366,822,452 ⁸	2,177,763,959	213.38 ⁷	—47,740,746	121,566,213	13,518,205	11.90
1931.	2,610,265,698	348,653,762 ⁸	2,261,611,937	218.01	83,847,978	121,289,844	10,421,224	11.60

¹ The minus sign (—) denotes a decrease.² This amount includes \$10,199,520, for which land was taken from the Canadian Pacific Ry. Co.³ This amount includes \$3,305,450, caused by the settlement of accounts with Ontario and Quebec.⁴ This amount takes into account \$5,397,503, allowed to Ontario and Quebec under 47 Vict., c. 6.⁵ Active assets only.⁶ Nine months.⁷ The per capita figures from 1922 to 1930 inclusive are worked out on the basis of the revised estimates of population (see p. 110).

Section 2.—Provincial Public Finance.¹

Provincial Governments in Canada are in the position, under section 118 of the British North America Act, 1867 (30 and 31 Vict., c. 3), and the British North America Act, 1907 (7 Edw. VII, c. 11), of having a considerable assured income in subsidies from the Dominion Treasury. Details of these payments are given for recent years in Tables 16 and 17 of this chapter. In addition, through their retention of ownership of their lands, minerals and other natural resources, the provinces which, by the voluntary action of their previously existing Governments, entered Confederation, raise considerable revenues through land sales, sales of timber, mining royalties, leases of water powers, etc., while the Prairie Provinces received from the Dominion special grants in lieu of land revenues. However, under recent legislation whereby the Prairie Provinces were given control of their natural resources, all the provinces of the Dominion were placed on an equal footing in the administration of natural resources within their boundaries and as regards revenues accruing therefrom. Further, under section 92 of the British North America Act, Provincial Legislatures are given authority to impose direct taxation within the province for provincial purposes and to borrow money on the sole credit of the province.

While the *laissez faire* school of political thought was predominant throughout the country provincial receipts and expenditures were generally very moderate, as may be seen, both for individual provinces and for the provinces collectively, from Table 23. From the commencement of the twentieth century, however, the Canadian public, more especially in Ontario and the West, began to demand increased services from the Government, particularly in respect of education, sanitation, and public ownership and operation of public utilities. The performance of these functions necessitated increased revenues, which had in the main to be raised by taxation. Among the chief methods of taxation to be employed has been the taxation of corporations and estates, succession duties showing a considerably increased yield even within the comparatively short period of thirteen years from 1916 to 1930 covered by the statements compiled by the Finance Branch of the Bureau of Statistics.² The fact that provincial government is cheaper per head in the eastern provinces is evident from Table 26, which gives the per capita ordinary revenue and expenditure for various fiscal years from 1881 to 1930. This, however, is not to be taken as evidence that the larger services rendered to the public in the western provinces are not worth what is being paid for them.

For the half-century subsequent to Confederation, the provincial accounts, published by each Government according to its own system of accounting, were quite incomparable as among the provinces, a fact much regretted by students of provincial public finance. Upon the creation of the Dominion Bureau of Statistics in 1918, its Finance Branch undertook the work of placing the various provincial public accounts on a comparable basis, correlating, for example, the revenues derived from succession duties, taxation of corporations, sales of public lands, royalties on forest, mineral and fisheries products, as well as the expenditures on such

¹ Revised by Col. J. R. Munro, Chief of the Finance Branch of the Dominion Bureau of Statistics. This Branch issues detailed statements on Provincial Finance which may be obtained from the Dominion Statistician. For a list of these publications see Chapter XXIX.

² The succession duties collected by the provinces in 1929 amounted in the aggregate to \$13,657,536, as compared with \$1,020,972 as recently as 1904, or a 13-fold increase in 25 years. The aggregate revenue raised by taxation of corporations, land, income and miscellaneous (exclusive of gasoline), increased from \$7,217,548 in 1916 to \$24,464,297 in 1929—a three-fold increase in 13 years. For the details for the years 1916 to 1926, see pp. 680-685 of the 1921 Year Book, pp. 788-793 of the 1926 Year Book and pp. 836-841 of the 1927-28 Year Book.

services as agriculture, civil government, education and public works. As the result of the Bureau's exhaustive analysis of the provincial public accounts, a summary statement of the ordinary receipts and expenditures of the Provincial Governments appeared for the first time in the 1919 Year Book. In the 1927-28 edition, pp. 836-41, an analysis was given of the public accounts of the provinces for their respective five fiscal years ended 1922 to 1926. The various items of receipts and expenditures were classified under appropriate headings and a uniform terminology was adopted. From these statements it is possible to ascertain the amounts received and expended in each year under the respective headings for each province, as well as for the provinces collectively. The figures for the years 1916 to 1920 will be found on pp. 680-685 of the 1921 Year Book, and for 1921 on pp. 786-791 of the 1922-23 Year Book.

In 1927 it was decided to commence a more exhaustive analysis of the finances of the provinces, including extraordinary as well as ordinary revenue and expenditure in the survey.

Ordinary Revenue and Expenditure.—The total ordinary revenue of the nine provinces for their latest fiscal years for which final data are available ended 1930 was \$188,084,468 as compared with \$183,598,024 in 1929, \$168,109,505 in 1928, \$156,845,780 in 1927, \$146,450,904 in 1926, \$132,398,729 in 1925, \$127,896,047 in 1924, \$117,738,244 in 1923, \$116,156,699 in 1922, \$102,030,458 in 1921, \$92,653,024 in 1920 and \$50,015,795 in 1916. The total ordinary expenditure in 1930 was \$185,108,139 as compared with \$177,542,192 in 1929, \$165,538,910 in 1928, \$152,211,883 in 1927, \$144,183,178 in 1926, \$136,648,242 in 1925, \$135,159,185 in 1924, \$132,671,095 in 1923, \$112,874,954 in 1922, \$102,569,515 in 1921, \$88,250,674 in 1920 and \$53,826,219 in 1916. Thus the total ordinary revenue of the provinces shows an increase of 276 p.c. in the short space of 14 years, while the total ordinary expenditure shows an increase of 243 p.c. in the same period.

Considering the individual provinces, the largest revenue for 1930 is that of Ontario, \$57,343,291, Quebec being next with \$43,585,141, and British Columbia third with \$25,498,409. As regards total expenditure for the same year, that of Ontario was highest, \$57,989,353, Quebec second with \$39,374,910, and British Columbia third with \$25,066,980. In 1930, British Columbia raised the largest revenue per head of population, *viz.*, \$42.71, while Prince Edward Island had the lowest, \$13.39. (For statistics of revenue and expenditure see Table 25.)

The Growth of Provincial Taxation.—Whereas in earlier years the Dominion subsidies, together with the revenues arising out of the natural resources of the provinces and from fees for specific services rendered to the citizens, nearly sufficed to cover the whole expenses of government and rendered a resort to taxation for provincial purposes practically unnecessary in most of the provinces, the great increase in the functions of government since the commencement of the present century has put an end to this state of affairs. The aggregate amount of taxation for provincial purposes in the fiscal years prior to 1916 is unfortunately not available. Since that time provincial taxation has increased, according to the analyses made in the Dominion Bureau of Statistics, from \$15,718,146 in 1916 to \$109,165,944 in 1929—a nearly seven-fold increase in 13 years.

The increase in the use of automobiles, both for commercial purposes and pleasure, is clearly demonstrated by the growing revenues from licences and permits issued by the Provincial Governments. In 1921 the total revenue of all provinces from automobile licensing amounted to \$7,857,751. It increased to \$9,290,900 in

1922; to \$10,842,525 in 1923; to \$11,944,242 in 1924; to \$13,020,607 in 1925; to \$15,288,138 in 1926; to \$15,822,339 in 1927; to \$18,980,716 in 1928 and to \$21,735,827 in 1929.

The growth of revenue from the gasoline tax still further demonstrates the increasing use of motor vehicles. In 1923 Manitoba and Alberta were the only provinces showing a gasoline-tax revenue, the total being \$280,404. In 1924 the five provinces of Prince Edward Island, Quebec, Manitoba, Alberta and British Columbia collected gasoline-tax revenue to the amount of \$559,543, while in 1925 the same provinces with Ontario added, collected \$3,521,388. In 1926 all provinces, except Saskatchewan, collected gasoline taxes which amounted to \$6,104,716, in 1927 to \$7,615,907 and in 1928 to \$9,151,735; in 1929, gasoline tax was collected in all provinces and amounted to \$17,237,017.

The provincial revenues from the liquor traffic have increased considerably of late years. The adoption of government control of the sale of liquor in the majority of the provinces, has resulted in trading profits, licensing revenues, and permit fees, all of which have swelled the provincial revenues. Prior to the adoption of government control such revenues were not available to the provinces. In 1925 the total revenue collected by all provinces from the liquor traffic was \$8,964,824; in 1926 it was \$11,609,392, increasing to \$16,793,656 in 1927. In 1928, it amounted to \$22,755,212 and in 1929 to \$27,599,687. The method of control varies somewhat as between provinces. In the majority of cases there are independent commissions or boards to administer the provincial liquor traffic acts, but the accounting and trading profits are shown somewhat differently in the various provincial public accounts reports.

Total Liabilities of the Provinces.—The total provincial direct liabilities in 1930 amounted to \$1,140,953,696 and have shown a steady and rapid increase since 1896 when they were but \$51,315,130. The direct liabilities in 1930, were divided among the provinces in the following proportions: Ont. 41.7 p.c., Alta. 11.1 p.c., B.C. 10.8 p.c., Man. 9.3 p.c., Que. 8.6 p.c., Sask. 7.1 p.c., N.B. 5.6 p.c., N.S. 5.5 p.c. and P.E.I. 0.3 p.c. Thus the Maritime Provinces with less than 10 p.c. of the total population hold 11.4 p.c. of the direct liabilities; the western provinces with 29 p.c. of the population carry 38 p.c.; Ontario with 33 p.c. of the population has nearly 42 p.c. of the total liabilities and Quebec, with decidedly the most favourable position, has more than 27 p.c. of the population but only 8.6 p.c. of the direct liabilities. In addition to the direct liabilities, there are also certain indirect liabilities which amounted in 1930 to \$227,599,646 so that the total liabilities of the provinces reached \$1,368,553,342 in that year. Figures by provinces for the fiscal years 1896, 1911, 1916-1930 are given in Table 23.

Bonded Indebtedness of the Provinces.—Of the total liabilities of the provinces the major part is represented by bonded debt owing to the public in Canada and abroad. The total bonded debt amounted to \$919,142,905 in 1930. In addition to this bonded debt there were Treasury Bills outstanding on provincial accounts amounting to \$71,778,326 for 1930. Figures of bonded debt for this and previous years to 1916 are given in Table 24. The rapid rise in the bonded debt of the provinces in the period under review is accounted for largely by the development of public ownership of utilities (such as the "Hydro" in Ontario), the extension of the highways and good roads systems in all provinces, the cultural training advances, and requirements for the promotion of industrial activities and public and social welfare. These demanded heavy expenditures which could not easily be met out of current revenue, and the borrowings, while increasing the public debt, are in the

main considered justifiable as the public utilities are meeting from their revenues the interest on indebtedness incurred in their construction, and the provincial assets generally are sound enough to take care of capital investment for other services which are necessary to develop the country.

Interest Payments of the Provinces.—The interest payments of the Provincial Governments have naturally increased in proportion to their growing indebtedness described above. In 1916, the first year for which aggregate figures are available on a comparable basis, the total interest payments of the provinces were \$7,817,844; in 1921 they had risen to \$19,818,266; in 1926 they were \$37,360,925 and in 1929 \$41,207,090. The 1929 interest payments of the Provincial Governments were as follows: P.E.I., \$74,998; N.S., \$2,270,269; N.B., \$1,903,544; Que., \$3,301,376; Ont., \$19,038,262; Man., \$4,026,694; Sask., \$2,362,569 (funded debt only); Alta., \$4,280,799; B.C., \$3,948,579.

Fiscal Years of the Provinces.—The fiscal years of the provinces end as follows: P.E.I., Dec. 31; N.S., Sept. 30; N.B., Oct. 31; Que., June 30; Ont., Oct. 31; Man. and Sask., April 30; Alta. and B.C., Mar. 31.

23.—Direct Liabilities of the Provincial Governments, by Provinces, for their respective fiscal years, 1896, 1911, 1916-30.

Fiscal Year.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	\$	\$	\$	\$	\$
1896.....	392,037	3,430,913	2,962,892	32,207,058	33,644
1911.....	995,683	10,693,690	6,869,104	28,170,982	24,765,923
1916.....	1,141,901	13,497,394	9,268,231	41,090,736	58,873,109
1917.....	1,154,344	13,910,236	19,132,607	42,259,090	61,795,108
1918.....	1,233,544	14,527,799	20,481,800	42,891,544	75,645,917
1919.....	1,465,967	15,342,056	23,966,816	43,965,512	97,572,781
1920.....	1,462,714	17,811,331	26,670,764	48,756,764	128,191,754
1921.....	1,515,184	22,502,836	30,134,573	58,336,436	204,959,690
1922.....	1,679,687	25,321,558	31,929,157	62,115,061	240,923,995
1923.....	2,077,046	29,121,152	34,794,329	69,661,633	303,391,292
1924.....	2,274,409	32,925,041	36,963,264	92,822,593	348,722,948
1925.....	2,490,200	39,860,448	41,193,074	98,856,760	345,207,247
1926.....	2,518,944	42,517,714	43,260,146	102,333,651	366,629,582
1927.....	2,725,260	45,926,428	46,754,509	100,316,582	371,422,300
1928.....	2,964,186	49,683,851	54,144,053	100,761,321	396,364,569
1929.....	3,132,234	55,277,896	53,063,658	101,144,764	429,289,134
1930.....	3,398,047	62,311,047	62,534,333	97,856,855	476,178,249

Fiscal Year.	Manitoba.	Saskat- chewan.	Alberta.	British Columbia.	Total.
	\$	\$	\$	\$	\$
1896.....	5,818,818 ¹	2	2	6,469,768	51,315,120
1911.....	45,820,300 ¹	2	9,293,533	12,053,227	138,662,442
1916.....	33,086,689	25,180,080	29,011,903	29,011,991	240,162,020
1917.....	35,653,270	26,797,807	31,382,873	32,903,017	264,988,357
1918.....	39,530,479	29,645,837	33,094,583	32,922,713	289,974,216
1919.....	46,610,583	32,413,340	35,674,160	37,460,872	304,472,087
1920.....	60,565,734	38,016,003	44,587,763	43,693,365	439,756,182
1921.....	73,054,507	45,928,262	68,438,866	60,600,198	565,407,555
1922.....	78,600,821	51,448,807	76,377,599	71,707,420	604,404,108
1923.....	82,199,499	55,158,455	84,010,266	79,266,936	739,680,601
1924.....	84,999,739	57,309,575	90,901,271	85,094,660	832,013,509
1925.....	84,219,977	58,118,615	95,670,360	91,640,679	857,257,369
1926.....	85,523,127	58,316,504	103,007,997	89,392,147	893,499,811
1927.....	88,003,110	58,028,682	110,342,869 ⁴	91,687,100	915,206,841
1928.....	91,995,078	59,292,654	110,342,869	97,590,159	963,138,741
1929.....	98,705,271	66,729,579	115,548,417	111,180,311	1,034,071,261
1930.....	105,940,743	81,178,245	127,465,842	124,090,335	1,140,953,690

¹Including indirect liabilities. ²Province not organized. ³Not available. ⁴Liabilities as at Mar. 31, 1928. No balance sheet was shown in the interim report ended Dec. 31, 1927.

24.—Bonded Debt (Exclusive of Treasury Bills) of Provincial Governments, by Provinces, fiscal years 1916 to 1930.

Fiscal Year.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	\$	\$	\$	\$	\$
1916.....	733,000	13,443,087	9,100,647	38,346,128	52,411,401
1917.....	733,000	13,362,707	15,809,856	39,462,996	55,301,501
1918.....	733,000	14,490,813	17,163,089	39,827,770	66,526,501
1919.....	733,000	14,614,893	18,585,760	39,706,614	81,026,501
1920.....	733,000	17,202,647	20,683,236	40,708,114	109,186,900
1921.....	858,000	20,678,267	23,573,432	51,652,113	184,693,420
1922.....	1,033,000	24,608,347	26,628,432	55,604,926	222,361,338
1923.....	1,183,000	27,134,507	28,583,932	60,605,226	255,587,757
1924.....	1,683,000	31,458,640	30,737,909	75,605,226	292,845,257
1925.....	1,833,000	36,000,928	32,345,909	81,944,926	277,045,257
1926.....	1,873,000	35,986,324	35,325,909	78,004,926	280,559,094
1927.....	1,933,000	40,708,457	36,554,409	79,212,226	293,365,994
1928.....	2,185,000	34,824,713	37,845,303	80,731,877	322,365,844
1929.....	2,109,000	46,395,847	34,780,603	80,334,792	350,563,844
1930.....	2,329,000	55,483,480	41,211,696	76,735,292	398,821,344

Fiscal Year.	Manitoba.	Saskat- chewan.	Alberta.	British Columbia.	Total.
	\$	\$	\$	\$	\$
1916.....	30,396,274	24,292,044	29,000,200	21,153,146	218,875,927
1917.....	31,196,870	25,439,187	30,595,200	23,153,146	235,054,463
1918.....	33,890,870	28,019,387	31,500,200	23,071,936	255,223,566
1919.....	36,897,870	29,963,410	34,635,200	27,571,936	283,735,184
1920.....	49,700,870	35,237,170	41,989,900	34,071,936	349,513,772
1921.....	61,929,870	41,785,436	59,010,257	46,511,436	490,692,231
1922.....	66,331,121	49,685,476	67,373,279	61,851,436	575,477,355
1923.....	67,914,095	52,807,876	78,522,279	65,851,436	638,190,108
1924.....	69,637,095	52,492,956	78,594,760	68,851,436	701,906,279
1925.....	66,658,595	50,493,376	81,459,407	76,443,736	704,225,134
1926.....	64,433,595	54,114,176	86,894,666	71,485,736	708,677,426
1927.....	67,293,828	56,944,576	90,890,458	75,485,736	742,388,684
1928.....	69,822,828	58,309,256	90,899,816	72,275,736	769,260,373
1929.....	71,465,161	58,275,776	96,532,443	77,482,736	817,940,202
1930.....	76,641,161	73,667,316	106,888,380	87,365,236	919,142,905

¹Liabilities statement is for April 30; this amount includes \$500,000 due May 1.

25.—Statement Showing the Ordinary Revenues and Expenditures of the Provincial Governments for their respective fiscal years ended 1868-1930.

Fiscal Year.	P.E.I.		N.S.		N.B.		Quebec.	
	Receipts.	Expendi- ture. ²	Receipts	Expendi- ture.	Receipts	Expendi- ture.	Receipts.	Expendi- ture.
	\$	\$	\$	\$	\$	\$	\$	\$
1868.....	270,559	299,867	466,181	532,808	555,293	485,267	1,529,843	1,181,952
1869.....	288,722	312,653	545,899	518,296	469,000	518,849	1,654,510	1,319,839
1870.....	302,855	343,892	601,373	537,080	433,216	463,191	1,053,993	1,581,251
1871.....	385,014	406,236	525,824	600,344	451,076	438,407	1,632,032	1,575,555
1872.....	395,473	506,666	687,695	639,584	586,105	558,502	1,698,331	1,598,653
1873.....	484,979 ¹	401,662 ¹	600,196	608,919	568,550	540,486	1,795,749	1,707,346
1874.....	403,013	442,767	686,826	676,111	591,465	589,794	1,983,603	1,908,283
1875.....	306,597	395,277	616,350	714,803	608,099	679,814	2,036,869	2,060,779
1876.....	524,144	353,226	589,637	653,874	634,850	587,330	2,329,868	2,283,075
1877.....	326,274	331,632	562,800	588,942	618,113	650,233	3,397,383	2,471,553
1878.....	312,684	334,133	645,294	688,003	584,977	640,815	2,018,482	2,477,171
1879.....	288,062	313,845	394,205	503,051	526,685	616,132	2,201,215	2,715,549
1880.....	269,603	257,309	541,318	506,253	675,285	609,671	2,342,412	2,038,023
1881.....	275,380	261,276	476,445	494,582	607,445	598,844	3,191,779	3,566,612
1882.....	233,465	257,228	537,667	569,119	643,710	614,236	3,419,371	3,628,229
1883.....	228,169	270,477	563,864	541,099	822,889 ³	943,824 ³	2,755,707	3,096,943
1884.....	280,271	279,545	586,561	572,768	650,466 ⁴	633,658	2,823,565	3,124,620
1885.....	248,222	266,318	613,026	620,700	617,570	584,473	2,926,148	2,936,744
1886.....	233,978	304,467	633,145	656,348	634,574	623,593	2,949,562	3,032,607
1887.....	241,736	288,052	656,639	664,103	665,819	667,647	2,965,567	3,288,799
1888.....	254,209	279,939	712,951	668,400	664,880	640,806	2,738,768	3,365,052
1889.....	234,165	263,605	668,774	713,941	651,031	637,051	3,628,544	3,543,619
1890.....	224,882	305,799	664,938	710,497	646,079	651,735	3,537,407	3,894,413
1891.....	274,047	304,486	661,541	692,538	612,762	680,813	3,457,144	4,097,520
1892.....	245,652	259,012	769,976	822,462	652,668	676,483	3,458,404	4,446,640
1893.....	217,473	294,201	682,567 ⁵	642,385 ⁵	730,877	711,673	4,373,363	3,907,445
1894.....	282,468	280,596	888,213	862,842	619,298 ⁶	661,521 ⁶	4,258,728	4,267,945
1895.....	277,314	310,177	835,455	831,230	687,437	684,635	4,221,687	4,198,985
1896.....	273,496	287,311	841,160	853,893	698,437	701,452	4,327,910	4,099,707
1897.....	272,550	310,752	832,240	853,699	745,203	727,187	3,877,466	4,892,282
1898.....	276,183	301,700	855,960	849,330	708,809	727,050	4,176,140	4,415,370
1899.....	282,678	276,789	876,828	852,379	764,439	749,644	4,223,579	4,201,023
1900.....	232,056	308,494	1,014,123	937,261	758,989	794,477	4,451,578	4,433,386
1901.....	309,445	315,326	1,090,230	1,088,927	1,031,267	1,100,346	4,563,432	4,516,555
1902.....	324,670	324,185	1,140,217	1,087,403	826,066	845,637	4,515,170	4,490,677
1903.....	318,766	327,662	1,243,581	1,177,331	801,410	816,295	4,699,773	4,596,067
1904.....	307,730	356,120	1,194,756	1,161,456	890,653	885,457	4,880,687	4,795,461
1905.....	313,445	334,734	1,324,531	1,303,708	865,637	874,420	5,039,001	4,989,901
1906.....	258,235 ⁷	264,135 ⁷	1,391,629	1,375,588	887,202	879,066	5,340,167	5,179,811
1907.....	350,479	346,081	1,438,167	1,536,169	969,939	960,093	5,270,595	4,767,070
1908.....	366,601	377,603	1,783,467	1,624,760	1,086,738	1,042,196	6,016,616	4,980,919
1909.....	373,374	366,938	1,632,979	1,653,508	1,259,827	1,255,382	6,082,187	5,539,885
1910.....	375,151	382,891	1,592,363	1,725,914	1,324,440	1,317,876	6,571,944	5,627,755
1911.....	374,798	398,490	1,625,653	1,790,778	1,347,077	1,403,547	7,032,745	6,424,901
1912.....	485,565 ⁸	527,220 ⁸	1,870,056	1,832,075	1,417,722	1,409,049	8,070,109	7,386,680
1913.....	506,553	450,112	1,920,565	1,949,784	1,459,000	1,446,963	8,382,737	7,953,931
1914.....	525,555	445,396	1,885,458	2,098,893	1,505,229	1,493,774	9,000,377	8,624,361
1915.....	470,730	510,345	1,953,302	2,073,672	1,634,079	1,626,634	9,597,926	8,710,511
1916.....	508,455	453,151	2,165,338	2,152,773	1,580,419	1,568,340	9,647,984	9,634,681
1917.....	496,053	487,113	2,118,620	2,344,009	1,572,814	1,266,904	10,441,114	9,907,671
1918.....	514,475	484,416	2,332,634	2,573,797	2,357,909	2,399,062	13,806,392	11,671,831
1919.....	501,915	655,409	3,280,313	3,280,282	2,182,420	2,595,937	12,666,352	12,371,151
1920.....	740,973	660,774	3,801,016	3,916,848	3,100,892	2,969,323	14,472,651	13,520,741
1921.....	769,719	694,042	4,586,840	4,678,146	2,892,905	3,432,512	15,914,521	14,624,044
1922.....	748,888	687,241	4,791,208	4,791,998	3,226,727	2,985,877	21,609,396	16,575,971
1923.....	554,303	790,046	5,317,335	5,229,178	3,479,733	3,648,273	21,634,462	19,320,271
1924.....	738,431	715,882	5,461,383	5,579,525	3,725,296	3,835,522	23,170,733	21,567,291
1925.....	740,076	745,338	4,467,484	5,969,544	3,556,330	4,112,569	25,021,323	23,629,339
1926.....	832,551	756,114	5,744,575	6,327,043	4,206,853	4,078,775	27,206,335	26,401,481
1927.....	836,748	870,427	6,517,073	6,566,143	5,086,446	4,636,157	30,924,997	29,078,701
1928.....	1,034,782	943,548	6,933,630	7,543,078	5,290,098	5,393,784	34,807,783	32,821,221
1929.....	1,083,571	1,033,315	7,390,410	7,288,486	5,991,375	6,521,575	39,976,283	35,904,448
1930.....	1,148,749	1,133,366	7,682,066	7,900,987	66,513,285	7,357,020	43,585,141	39,374,911

¹Nine months only. ²Includes expenditure on capital account, except for 1900-1904. ³Fourteen months. ⁴Includes \$250,000, proceeds of bonds for funding floating debt. ⁵For nine months ended September 30. ⁶Ten months. ⁷Nine months only, owing to change of fiscal year. ⁸Fifteen months owing to change of fiscal year.

5.—Statement Showing the Ordinary Revenues and Expenditures of the Provincial Governments for their respective fiscal years ended 1868-1930—concluded on p. 736.

Fiscal Year.	Ontario.		Manitoba.		Saskatchewan.	
	Receipts.	Expenditure.	Receipts.	Expenditure.	Receipts.	Expenditure.
	\$	\$	\$	\$	\$	\$
868.	2,250,208	1,179,269	—	—	—	—
869.	2,625,179	1,445,752	—	—	—	—
870.	2,500,696	1,578,977	—	—	—	—
871.	2,333,180	1,816,784	—	—	—	—
872.	3,060,748	2,217,555	—	—	—	—
873.	3,141,298	3,099,634	—	138,658	—	—
874.	3,446,348	3,883,702	24,611 ¹	61,177 ¹	—	—
875.	3,156,606	3,617,522	74,534	133,360	—	—
876.	2,589,085	3,152,365	150,010 ¹	145,248 ¹	—	—
877.	2,502,449	3,131,998	99,608	92,958	—	—
878.	2,284,656	2,914,864	98,864	107,926	—	—
879.	2,287,951	2,954,712	135,311	151,086	—	—
880.	2,584,152	2,531,166	118,867	185,109	—	—
881.	2,788,747	2,592,800	121,867	226,808	—	—
882.	2,880,450	2,931,825	255,208	232,189	—	—
883.	2,439,941	2,900,035	376,863	386,071	—	—
884.	2,820,555	3,207,890	302,962	501,710	—	—
885.	3,005,921	3,040,139	150,728 ¹	229,278 ¹	—	—
886.	3,148,660	2,181,450	485,326	448,002	—	—
887.	3,527,578	3,454,372	506,890	520,190	—	—
888.	3,602,862	3,544,835	841,894 ¹	758,139 ¹	—	—
889.	4,464,031	4,578,982	583,795	588,467	—	—
890.	3,434,259	3,907,428	585,709	708,302	—	—
891.	4,138,589	4,158,460	590,484	664,432	—	—
892.	4,662,922	4,068,257	605,288	832,890	—	—
893.	4,091,914	3,907,145	633,116	798,188	—	—
894.	3,453,163	3,839,339	613,094	699,319	—	—
895.	3,585,300	3,758,595	703,172	704,946	—	—
896.	3,490,671	3,703,380	665,353	763,158	—	—
897.	4,139,848	3,767,676	683,706	780,109	—	—
898.	3,710,928	3,864,971	936,604	837,888	—	—
899.	4,103,478	3,717,404	776,234	972,462	—	—
900.	4,192,940	4,003,729	905,331	1,085,405	—	—
901.	4,466,044	4,038,834	1,008,653	988,251	—	—
902.	4,291,083	4,345,004	1,443,256	1,248,128	—	—
903.	5,466,653	4,888,983	1,352,218	1,262,292	—	—
904.	6,128,358	5,267,453	1,486,667	1,271,733	—	—
905.	6,016,176	5,396,017	1,860,900	1,398,431	618,432 ¹	118,602 ¹
906.	7,149,478	6,720,179	2,089,652	1,572,691	1,441,258 ²	1,364,352 ²
907.	8,320,419	7,714,246	2,118,784	1,824,381	—	—
908.	8,602,903	8,557,065	2,891,582	2,534,794	1,844,371	2,091,613
909.	7,477,921	7,545,040	3,376,893	2,752,774	2,199,984	2,654,690
910.	8,891,005	8,887,520	3,847,322	3,234,941	2,514,698	2,220,866
911.	9,370,834	9,916,934	4,454,190	4,002,826	2,699,603	2,575,145
912.	10,042,001	10,287,992	7,046,675	4,339,540	4,385,831	4,255,850
913.	11,183,302	10,868,026	5,788,070	5,314,849	4,668,754	4,656,800
914.	11,121,382	11,819,311	5,512,163	5,638,659	6,372,540 ⁴	5,823,980 ⁴
915.	12,975,732	12,704,362	5,472,955	6,026,596	5,024,936	5,368,649
916.	13,841,339	12,706,333	5,897,807	6,147,780	4,801,064	5,258,756
917.	18,269,597	16,518,223	6,292,986	6,860,355	5,631,910	5,553,965
918.	19,270,122	17,460,404	6,723,013	7,307,727	7,797,153	6,828,596
919.	20,692,166 ³	21,464,575	8,613,364	8,497,942	8,333,759	8,125,203
920.	25,981,517 ³	25,880,843	9,870,710	10,602,955	9,903,885	8,707,833
921.	30,411,396 ³	28,579,688	9,358,956	10,063,139	11,789,920	12,151,665
922.	39,725,370 ³	37,458,395 ⁷	7,940,457	8,381,667	11,801,894	13,322,120
923.	34,818,729 ³	49,305,439	10,078,730	10,616,567	12,576,763	12,886,544
924.	41,721,961 ³	48,866,569	10,926,634	10,455,187	12,520,411	12,449,150
925.	48,013,852 ³	51,462,178	7,866,519 ⁸	6,824,155 ⁸	12,378,755	12,498,933
926.	52,039,855 ³	51,251,781	10,582,537	10,431,652	13,317,398	13,212,483
927.	56,306,225	55,763,689	11,592,758	10,446,285	13,050,217	12,962,217
928.	58,426,983	58,198,746	10,962,317	11,103,109	13,564,893	13,449,632
929.	64,549,718	61,906,824	12,150,490	12,344,493	16,096,666	15,971,231
930.	57,343,291	57,989,353	13,922,135	13,802,934	16,561,528 ⁹	17,079,704 ⁹

¹Four months only. Province created Sept. 1, 1905. ²Fourteen months ended Feb. 28, 1907. ³Includes capital revenue for lands which cannot be separated. ⁴Fourteen months ended April 30. ⁵Six months. ⁶Eighteen months. ⁷Includes capital expenditure which cannot be separated. ⁸For eight months. ⁹Certain minor items, amounting to about \$600,000, shown in previous years as ordinary receipts and expenditure have been transferred to the extraordinary classification in the 1930 provincial accounts report.

25.—Statement Showing the Ordinary Revenues and Expenditures of the Provincial Governments for their respective fiscal years ended 1868-1930—concluded.

Fiscal Year.	Alberta.		British Columbia.		Totals for all Provinces.*	
	Receipts.	Expenditure.	Receipts.	Expenditure.	Receipts.	Expenditure.
	\$	\$	\$	\$	\$	\$
1868.....	-	-	-	-	5,072,084	3,679,143
1869.....	-	-	-	-	5,583,310	4,115,390
1870.....	-	-	-	-	5,492,133	4,504,391
1871.....	-	-	191,820 ⁶	97,692 ⁶	5,518,946	4,935,008
1872.....	-	-	327,216	432,083	6,755,568	5,950,043
1873.....	-	-	370,150	372,169	6,960,922	6,868,884
1874.....	-	-	372,418	583,360	7,508,284	8,145,194
1875.....	-	-	351,241	614,659	7,150,296	8,216,244
1876.....	-	-	381,120	728,310	7,198,714	7,903,378
1877.....	-	-	408,348	685,046	6,914,975	7,952,362
1878.....	-	-	430,786	514,879	6,375,743	7,777,791
1879.....	-	-	213,058 ⁶	186,715 ⁶	6,046,487	7,441,090
1880.....	-	-	390,908	446,575	6,922,545	7,366,106
1881.....	-	-	397,035	378,779	7,858,698	8,119,701
1882.....	-	-	405,583	474,428	8,375,454	8,707,254
1883.....	-	-	425,808	594,102	7,613,241	8,732,551
1884.....	-	-	503,174	590,629	7,967,554	8,910,820
1885.....	-	-	600,399	655,438	8,162,014	8,333,080
1886.....	-	-	514,720	772,211	8,599,965	8,054,678
1887.....	-	-	537,335	731,307	9,101,564	9,614,469
1888.....	-	-	598,252	788,955	9,413,816	10,046,106
1889.....	-	-	698,055	857,545	10,928,865	11,183,210
1890.....	-	-	835,463	954,021	9,928,737	11,132,195
1891.....	-	-	959,248	1,032,104	10,693,815	11,628,353
1892.....	-	-	1,020,002	1,430,920	11,414,913	12,536,664
1893.....	-	-	1,019,206	1,431,438	11,748,516	11,692,475
1894.....	-	-	821,660	1,514,405	10,936,624	12,125,968
1895.....	-	-	896,025	1,906,924	11,206,390	12,386,492
1896.....	-	-	989,765	1,614,723	11,286,792	12,023,944
1897.....	-	-	1,383,048	1,569,071	11,934,061	12,900,776
1898.....	-	-	1,439,623	2,001,032	12,104,247	12,997,341
1899.....	-	-	1,531,639	2,156,474	12,558,875	12,926,175
1900.....	-	-	1,544,108	1,831,205	13,149,125	13,393,957
1901.....	-	-	1,605,920	2,287,821	14,074,991	14,146,059
1902.....	-	-	1,807,925	2,537,373	14,348,387	14,878,407
1903.....	-	-	2,044,630	3,393,182	15,927,031	16,461,806
1904.....	-	-	2,638,260	2,862,794	17,527,111	16,600,482
1905.....	635,976 ^{1,2}	162,723 ^{1,2}	2,920,462	2,302,418	19,594,560	16,880,959
1906.....	1,425,059 ¹	1,485,914 ¹	3,044,442	2,328,126	23,027,122	21,169,868
1907.....	2,081,828 ²	2,450,375 ²	4,444,594	2,849,480	24,994,805	22,450,895
1908.....	2,849,650 ²	2,823,831 ²	5,979,055	3,686,350	31,420,983	27,719,131
1909.....	3,135,727 ²	2,650,441	4,664,501 ³	3,749,171 ³	30,205,393	28,167,824
1910.....	2,488,406 ²	4,002,394	8,874,742	6,382,993	36,480,071	33,783,150
1911.....	3,309,156 ²	3,437,088	10,492,892	8,194,803	40,706,948	38,144,511
1912.....	4,100,113 ²	3,356,562	10,745,709	11,189,024	48,163,781	45,183,992
1913.....	5,399,905	5,225,584	12,510,215	15,412,322	51,819,101	53,278,425
1914.....	5,255,276	5,401,595	10,479,259	15,762,912	51,657,239	57,108,888
1915.....	5,143,590	5,714,032	7,974,496	11,942,667	50,247,746	54,677,473
1916.....	5,281,695	6,018,894	6,291,694	10,083,505	50,015,795	53,826,219
1917.....	6,260,106	6,752,504	6,906,784	9,531,740	57,989,984	60,122,485
1918.....	7,660,762	8,303,808	8,882,845	9,023,269	69,345,305	66,052,909
1919.....	9,642,739	9,525,749	10,931,279	9,887,745	76,844,307	76,403,973
1920.....	10,919,776	10,423,356	13,861,603	11,568,003	92,653,023	89,250,675
1921.....	11,086,937	13,109,304	15,219,264	15,236,931	102,030,458	102,569,515
1922.....	9,324,890	11,235,192	16,987,869	17,436,487	116,156,699	112,874,954
1923.....	10,419,146	10,990,830	18,758,864	19,273,942 ⁴	117,738,244	132,241,095
1924.....	10,506,627	11,174,690	19,124,580	20,515,367 ⁴	127,896,047	135,159,185
1925.....	11,531,026	11,249,323	18,823,353	20,156,702 ⁴	132,398,729	136,048,242
1926.....	11,912,123	11,894,323	20,608,672	19,829,522 ⁴	146,450,904	144,183,178
1927.....	12,263,401	12,479,381	20,257,916	19,408,881 ⁴	156,845,780	152,211,883
1928.....	16,149,896 ⁷	15,870,133 ⁷	20,939,123	20,215,655 ⁴	168,109,505	165,538,910
1929.....	15,265,084	13,686,261	21,094,427	22,825,520 ⁴	183,598,024	177,542,192
1930.....	15,829,865	15,402,885	25,498,409	25,066,980 ⁴	188,084,468	185,108,139

¹ Four months only. Province created Sept. 1, 1905. ² Includes small sums of capital revenue and expenditure which cannot be separated. ³ Nine months only, owing to change in fiscal year. ⁴ Includes sinking funds taken from capital expenditure (expenditure out of income). ⁵ See footnotes to figures for individual provinces when using these columns. ⁶ Six months. ⁷ Fifteen months ended Mar. 31, 1928.

6.—Ordinary Receipts and Expenditures of Provincial Governments per head of Population for their respective fiscal years ended in the census years 1871-1911 and in each year from 1916 to 1930.

NOTE.—As this table is based upon Table 25, those using it should refer to that table for totals and for explanatory notes.

(A) ORDINARY RECEIPTS.

Fiscal Year.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Average for All Provinces.
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
871.....	4-09	1-36	1-57	1-36	1-44	—	—	—	5-29	1-53
881.....	2-53	1-08	1-90	2-35	1-45	1-96	—	—	8-03	1-82
891.....	2-50	1-47	1-91	2-32	1-96	3-88	—	—	9-77	2-21
901.....	3-00	2-37	3-12	2-77	2-05	3-95	—	—	8-99	2-62
911.....	4-00	3-30	3-83	3-50	3-71	9-65	5-48	8-84	26-73	5-65
916.....	5-59	4-27	4-28	4-43	5-08	10-65	7-41	10-64	13-76	6-23
917.....	5-49	4-16	4-22	4-72	6-61	11-14	8-42	12-17	14-68	7-10
918.....	5-72	4-55	6-27	6-14	6-87	11-68	11-28	14-38	18-36	8-34
919.....	5-61	6-35	5-74	5-54	7-27	11-69	11-69	17-50	21-99	9-08
920.....	8-32	7-31	8-08	6-23	8-99	16-49	13-47	19-17	27-14	10-75
921.....	8-69	8-76	7-46	6-74	10-37	15-34	15-56	18-84	29-01	11-63
922.....	8-41	9-11	8-29	8-97	13-33	12-89	15-35	15-75	31-40	13-02
923.....	6-37	10-27	8-95	8-84	11-56	16-28	16-17	17-57	33-79	13-07
924.....	8-57	10-58	9-53	9-29	13-64	17-48	15-83	17-60	33-49	13-99
925.....	8-61	8-67	9-05	9-82	15-43	12-45	15-36	19-15	32-01	14-25
926.....	9-57	11-15	10-62	10-45	16-45	16-56	16-22	19-59	34-01	15-50
927.....	9-62	12-65	12-81	11-64	17-49	17-81	15-52	19-37	32-52	16-28
928.....	11-76	13-46	13-19	12-82	17-82	16-51	15-74	24-54	32-67	17-10
929.....	12-31	14-35	14-83	14-42	19-36	17-95	18-23	22-32	32-01	18-31
930.....	13-05	14-95	16-04	15-43	16-94	20-21	18-24	22-36	37-72	18-14

(B) ORDINARY EXPENDITURES.

Fiscal Year.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Average for All Provinces.
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
871.....	4-32	1-55	1-54	1-32	1-12	—	—	—	2-70	1-36
881.....	2-40	1-12	1-87	2-63	1-35	3-64	—	—	7-66	1-88
891.....	2-77	1-54	2-12	2-75	1-97	4-36	—	—	10-51	2-41
901.....	3-05	2-37	2-75	2-74	1-85	3-87	—	—	12-80	2-63
911.....	4-25	3-64	3-99	3-20	3-92	8-68	5-23	9-18	20-87	5-29
916.....	4-98	4-25	4-25	4-33	4-67	11-10	8-12	12-12	22-05	6-71
917.....	5-39	4-60	5-82	4-48	5-97	12-15	8-30	13-12	20-26	7-36
918.....	5-39	5-02	6-38	5-19	6-23	12-69	9-88	15-59	18-65	7-94
919.....	7-33	6-35	6-83	5-41	7-54	14-48	11-39	17-28	19-89	9-03
920.....	7-42	7-53	7-73	5-82	8-96	17-72	12-85	18-30	22-65	10-24
921.....	7-83	8-93	8-85	6-19	9-74	16-49	16-04	22-28	29-05	11-69
922.....	7-72	9-18	7-68	6-88	12-57	13-61	17-32	18-98	32-23	12-66
923.....	9-08	10-09	9-38	8-15	16-36	17-15	16-56	18-53	34-72	14-17
924.....	8-32	10-81	9-81	8-64	15-97	16-73	15-74	18-72	35-93	14-78
925.....	8-67	11-59	10-46	9-27	16-54	10-80	15-51	18-69	34-28	14-70
926.....	8-69	12-29	10-30	10-14	16-20	16-32	16-09	19-56	32-72	15-26
927.....	10-00	12-75	11-65	10-94	17-32	16-05	15-41	19-71	31-15	15-80
928.....	7-22	14-65	13-45	12-09	17-75	16-72	15-60	24-12	31-54	16-84
929.....	11-74	14-15	16-14	12-97	18-57	18-23	18-09	20-01	34-64	17-71
930.....	12-88	15-37	18-12	13-94	17-13	20-03	18-91	21-76	37-08	18-14

¹Per capita figures for the years 1922-1930 inclusive are worked out on the basis of revised populations (see p. 110).

Section 3.—Municipal Public Finance.¹

The existence of local self-governing units has always been characteristic of democratic societies, and nowhere more so than in Canada. The struggle for responsible government was naturally accompanied by an agitation for local self-government in the cities and towns of Canada, and after responsible government had been conceded, a complete system of municipalities was established throughout the old Province of Canada by the Municipal Act of 1849.² Under the division of

¹ Revised by Col. J. R. Munro, Chief of the Finance Branch of the Dominion Bureau of Statistics. This Branch issues statements on "Financial Statistics of Urban Municipalities of 10,000 Population and over," on "Bonded Indebtedness of Municipalities" and on "Assessment Valuations of Municipalities." For a list of publications see Chapter XXIX, Section 1, under "Finance".

² For a brief outline of the rise of the municipal system of Ontario, see 1922-23 Year Book, p. 108.

powers made by the British North America Act between the Dominion and the Provincial Governments, legislation regarding municipal government, being a local matter, was naturally assigned to the provinces, which differ considerably with regard to their types of municipal organization. Thus in Prince Edward Island the only incorporated municipalities are the city of Charlottetown and six incorporated towns. In British Columbia six of the 33 cities have fewer than 1,000 people, while there are no towns at all and only fourteen villages; again, in the same province the rural districts are mainly administered from the provincial capital, there being only 28 rural municipalities. Finally, in Saskatchewan and Alberta there exist local improvement districts, areas which have not as yet been organized into rural municipalities, where the taxes are levied, collected and expended by the Provincial Government. Such districts, however, may be regarded as on the way to become self-governing rural municipalities and their statistics are therefore included in Table 27, which gives statistics of the numbers and types of municipalities in 1930.

27.—Number of Municipalities in Canada, by Provinces and Classes, 1930.

Province.	Cities.	Towns.	Villages.	Counties.	Rural Municipalities.	Local Improvement Districts.	Total No. of Municipalities.
Prince Edward Island.....	1	6	—	—	—	—	7
Nova Scotia.....	2	43	—	—	24	—	69
New Brunswick.....	3	19	2	15	—	—	39
Quebec.....	25	97	298	74	1,010	—	1,504
Ontario.....	28	145	154	38 ¹	573 ²	—	938
Manitoba.....	4	30	22	—	120	—	176
Saskatchewan.....	8	80	384 ³	—	302	18	792
Alberta.....	7	54	146 ³	—	166	234	607
British Columbia.....	33	—	14	—	28	—	75
Canada.....	111	474	1,020	127	2,223	252	4,207

¹ There are 44 counties in all, geographically, but a number are united for municipal purposes.

² Officially known as townships. ³ Includes six summer resort villages.

Municipal Assessments.—Throughout the Dominion, the chief basis of municipal tax revenue is the real estate within the limits of the municipalities, though in certain provinces personal property, income, and business carried on are also taxed. General taxes are normally assessed at the rate of so many mills on the dollar of the assessed valuations. In the Prairie Provinces the values of improvements made to real property are often rated at a very low figure, *e.g.*, in Saskatchewan, where the taxable valuations of buildings are about 12 p.c. of the taxable valuations of lands, and in Alberta, where they are about 24 p.c. of the taxable valuations of lands, as shown in Table 28.

There are various reasons for fluctuations in assessment valuations, due to differences in laws and varying practices with regard to assessment as between provinces, as between classes of municipalities and as between municipalities of the same class from year to year. Such matters are more fully dealt with in the special report of the Bureau on "Assessment Valuations by Provinces".

Land valuations in the West, which in earlier years were somewhat inflated, have of late been assessed on a sounder basis, and in some provinces the Equalization Boards have placed a more equitable valuation on lands as among the various rural municipalities.

8.—Summary Statement Showing Total Assessment Valuations of Municipalities, by Provinces, for 1929 and 1930.

Province.		Taxable Real Property.		
		Land.	Buildings.	Total.
		\$	\$	\$
Prince Edward Island.....	1929	—	—	30,842,925
	1930	—	—	31,492,665
Nova Scotia ²	1929	—	—	136,915,454 ³
	1930	—	—	138,202,162 ⁴
New Brunswick.....	1929	—	—	158,569,642
	1930	—	—	126,468,634
Quebec.....	1929	—	—	2,354,494,461
	1930	—	—	2,451,644,179
Ontario.....	1929	1,291,803,654	1,383,517,323	2,675,320,977
	1930	1,314,778,176	1,444,419,193	2,759,197,369
Manitoba.....	1929	—	—	540,852,995
	1930	—	—	541,847,002
Saskatchewan.....	1929	974,028,206	109,745,019	1,083,773,225
	1930	976,232,540	115,066,876	1,091,299,416
Alberta ⁵	1929	454,224,514	107,405,626	561,630,140
	1930	525,513,056	119,904,827	645,417,883
British Columbia.....	1929	307,514,698	352,814,469	660,329,167
	1930	307,772,090	374,218,299	681,990,389
Totals, All Provinces.....	1929	3,027,571,072¹	1,953,482,437¹	3,202,728,986³
	1930	3,124,295,862¹	2,053,609,195¹	3,467,559,699⁴

Province.	Personal Property.	Income.	Other Taxable Valuations.	Total Taxable Valuations.	Exempted Property.
	\$	\$	\$	\$	\$
Prince Edward Island.....	1929 6,820,658	536,020	75,850	38,275,453	1,944,000
	1930 7,413,475	425,016	57,030	39,388,186	1,984,000
Nova Scotia ²	1929 24,118,744 ³	1,698,572 ³	—	162,638,650	40,135,244
	1930 23,986,731 ⁴	1,716,970 ⁴	—	163,831,573	45,163,617
New Brunswick.....	1929 28,597,163	—	—	187,166,805	—
	1930 23,111,956	—	—	149,580,590	—
Quebec.....	1929 —	—	14,791,807	2,369,286,268	637,990,363
	1930 —	—	13,489,102	2,465,133,281	668,244,770
Ontario.....	1929 —	119,218,961	219,323,197	3,013,863,135 ⁶	488,724,668
	1930 —	135,092,197	232,243,536	3,126,533,102 ⁶	510,504,102
Manitoba.....	1929 10,296,733	—	10,439,762	561,589,490	144,991,311
	1930 11,273,173	—	10,573,874	563,694,049	147,066,868
Saskatchewan.....	1929 —	2,473,384 ⁷	45,599,072	1,131,845,681	—
	1930 —	2,048,005 ⁸	46,067,839	1,139,415,260	—
Alberta ⁵	1929 —	—	8,981,640	570,611,780	—
	1930 —	—	10,785,735	656,203,618	—
British Columbia.....	1929 —	—	—	660,329,167	81,303,065
	1930 —	—	—	681,990,389	87,373,370
Totals, All Provinces.....	1929 69,833,298³	123,926,937³	299,211,328	8,695,606,429	1,395,088,651
	1930 65,785,335	139,282,188	313,217,116	8,955,770,048	1,460,936,727

¹Less the Maritime Provinces, Quebec and Manitoba. ²Personal property and income assessments for cities are for Sydney only. ³Including \$94,120 exempted property, not separable. ⁴Includes \$74,290 exempted property, not separable. ⁵Local Improvement Districts not included in 1929. ⁶In addition assessments for schools only were: townships \$2,730,538, towns and villages \$23,719,597 and cities \$92,401,140 in 1929; and townships \$3,125,660, towns and villages \$22,347,193 and cities \$86,780,452 in 1930. ⁷\$256,400 is by special franchise. ⁸\$484,736 is by special franchise.

Bonded Indebtedness.—Like other Canadian governing bodies, the municipalities of the greater part of Canada borrowed rather freely during the boom period

of 1900-12, and again during the period of inflation between 1917 and 1920. The bonded indebtedness of Ontario municipalities rose from \$153,568,409 in 1913 to \$485,280,182 in 1930, while that of Quebec municipalities increased from \$132,078,584 in 1914 to \$323,395,745 in 1930, and a proportionate increase took place in other provinces. The recent growth in the bonded indebtedness of all classes of municipalities is shown by provinces in Table 29. The figures show that there was an increase for 1930 over 1929 in each of the provinces with the exception of New Brunswick and Manitoba. In Saskatchewan net debenture debt is shown for all municipalities in 1924 to 1926, while from 1927 to 1930 the statistics represent gross debenture debt. In Alberta the statistics given represent principally net debenture debt from 1924, 1925, 1926, 1927 and 1928, while in 1929 and 1930 gross debenture debt is given. All other provinces give total debenture debt throughout.

29.—Total Bonded Indebtedness of All Classes of Municipalities, by Provinces, 1924-30.

Province.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$	\$	\$
P.E.I. ¹	1,143,550	1,163,050	1,247,545	1,452,425	1,515,125	1,598,624	1,863,210
Nova Scotia....	25,348,664	25,722,635	26,281,152	28,381,616	29,049,412	29,029,119	30,182,260
N.B. ²	17,350,225	10,660,863	17,091,550	15,707,699	19,365,535	21,129,540	20,565,990
Quebec.....	230,424,908	231,358,779	246,541,730	260,435,420	278,864,744	293,557,500	323,395,745
Ontario.....	430,010,501	405,178,853	413,474,813	434,464,056	435,912,807	451,936,592	485,280,182
Manitoba.....	73,944,105	79,211,867	80,716,272	83,017,302	85,651,906	85,901,404	84,879,700
Saskatchewan..	49,448,911	46,732,040	44,769,529	54,361,158	53,092,330	54,913,100	59,000,180
Alberta.....	65,414,317	57,908,593	56,950,712	62,414,660	63,428,853	78,473,392	78,645,810
B.C.....	96,106,151	99,055,201	102,853,228	107,376,118	110,124,819	118,483,618	125,832,080
Totals.....	989,191,332	956,991,881	989,926,531	1,047,610,454	1,077,095,531	1,135,022,889	1,209,645,180

¹Figures represent Charlottetown and Kensington 1924-30; Montague for 1925-30; Summerside, Souris, Georgetown and Alberton 1926-30.

²New Brunswick figures are for 3 cities, 18 towns, 2 villages and 15 counties in 1924; 2 cities, 13 towns, 2 villages and 15 counties in 1925; 3 cities, 18 towns, 1 village and 15 counties in 1926; 3 cities, 23 towns, 2 villages and 15 counties in 1927, 1928 and 1929, and 3 cities, 19 towns, 2 villages and 15 counties for 1930.

30.—Principal Financial and Other Statistics of Canadian Cities and Towns with Populations of 10,000 and over, 1930.

Province and City.	Area.	Populations as furnished by Municipalities.	Total Assessed Value of Taxable Property.	Grand Total Receipts.	Grand Total Expenditures.	Total Assets.	Total Liabilities.
	acres.	No.	\$	\$	\$	\$	\$
Prince Edward Island— Charlottetown.....	830	12,750	8,432,263	241,054	282,433	2,344,370	1,836,500
Nova Scotia— Halifax.....	4,400 ¹	59,275 ³	45,897,200	3,484,164	3,484,163	17,649,962	17,649,960
Sydney.....	3,730 ¹	23,089 ³	12,984,602	1,775,682	1,775,702	5,795,935	5,795,900
Glace Bay.....	6,200 ²	20,706 ³	5,024,475	803,979	837,213	2,386,792	1,754,600
New Brunswick— Saint John.....	13,440	60,000 ⁴	52,980,250	3,018,145	3,486,731	12,040,379	9,689,100
Moncton ⁵	2,093	20,689	23,409,195	1,325,904	1,325,903	5,506,884	5,081,100

For footnotes see end of table, p. 741.

0.—Principal Financial and Other Statistics of Canadian Cities and Towns with Populations of 10,000 and over, 1930—concluded.

Province and City.	Area.	Popu- lations as furnished by Muni- cipalities.	Total Assessed Value of Taxable Property.	Grand Total Receipts.	Grand Total Expendi- tures.	Total Assets.	Total Liabilities.
	acres.	No.	\$	\$	\$	\$	\$
Quebec—							
Montreal.....	32,155	1,098,409	1,245,746,459	94,574,266	95,274,883	215,989,348	230,991,677
Quebec.....	5,754	140,000	117,524,442	13,530,940	13,710,357	24,830,028	28,735,188
Verdun.....	1,426	54,911	37,568,225	2,092,202	2,041,572	5,358,632	8,053,137
Three Rivers.....	25,600	40,000	25,590,650	5,673,229	5,644,421	9,890,345	9,106,362
Sherbrooke.....	3,104	28,757	25,830,086	3,742,463	3,725,840	11,498,486	9,454,887
Hull.....	4,000	28,228	21,751,575	1,021,917	1,022,604	3,295,716	4,007,874
Outremont.....	975	27,500	40,934,457	1,455,645	1,326,211	7,513,685	7,429,285
Westmount.....	976	25,000	68,882,022	3,679,045	3,679,045	9,189,444	11,588,475
Lachine.....	2,996	19,026	25,316,253	1,047,671	1,047,671	4,257,430	5,674,311
Shawinigan Falls.....	1,280	14,962	23,307,833	785,547	767,703	1,651,157	2,484,535
St. Hyacinthe.....	1,091	13,500	11,964,770	496,250	483,291	1,537,158	1,530,534
St. Jean.....	1,331	12,476	10,891,580	509,544	507,093	1,512,420	1,349,887
Chicoutimi.....	1,700	11,455	7,587,486	720,575	706,359	1,264,136	1,890,506
Lévis.....	2,222	11,167	5,904,953	308,096	312,471	1,226,920	1,258,506
Thetford Mines.....	2,080	10,908	6,541,800	215,544	215,544	722,903	635,359
Joliette.....	1,288	10,904	5,629,465	309,936	320,924	1,806,595	1,253,310
Valleyfield.....	358	10,859	4,614,325	500,883	499,118	747,543	817,566
Granby.....	960	10,500	5,440,907	474,937	340,314	936,695	871,141
Sorel.....	2,000	10,200	3,779,306	471,747	481,100	1,015,581	1,188,200
Ontario—							
Toronto.....	17,176	606,372	1,013,408,615	40,267,586	40,261,592	233,894,844	192,792,337
Hamilton.....	9,274	144,529	165,440,160	8,592,195	8,548,336	53,358,868	34,931,626
Ottawa.....	4,120	126,872	157,309,227	6,364,694	6,338,303	33,574,499	26,028,688
Windsor.....	3,209	70,031	89,926,950	4,057,956	4,517,102	18,986,121	17,227,481
London.....	7,212	69,742	84,662,450	3,832,207	3,770,924	19,499,306	18,117,584
Kitchener.....	2,935	30,274	25,686,732	1,624,268	1,567,407	6,875,818	4,811,061
Brantford.....	3,159	30,103	28,507,470	1,613,453	1,667,347	6,386,961	5,824,299
Oshawa.....	3,356	25,550	16,349,030	1,161,406	1,135,918	5,686,925	5,657,477
St. Catharines.....	1,860	25,347	24,152,525	1,433,746	1,409,790	6,367,033	6,136,054
Fort William.....	9,865	24,635	32,690,464	1,585,638	1,553,973	11,857,563	11,668,401
Sault Ste. Marie.....	4,900	22,844	19,278,856	1,042,390	1,020,960	7,056,178	6,466,672
Peterborough.....	2,840	22,487	24,145,922	1,065,918	1,073,832	9,028,944	7,328,156
Kingston.....	2,641	21,616	17,273,083	1,097,758	1,091,397	4,038,676	3,458,559
Georgetown.....	3,104	20,393	13,935,040	1,258,669	1,268,631	7,593,874	4,679,571
Port Arthur.....	8,700	20,092	24,866,255	1,381,360	1,449,557	13,597,054	12,528,894
Stratford.....	2,835	18,909	15,209,418	826,621	825,174	6,792,165	3,852,097
Niagara Falls.....	1,655	18,539	22,482,041	1,181,760	1,140,022	4,343,617	4,237,880
Sarnia.....	1,770	17,003	18,053,289	963,124	976,207	4,444,785	3,056,148
St. Thomas.....	1,800	16,869	16,921,726	939,581	910,566	4,493,719	2,159,587
Sudbury.....	2,560	16,622	7,935,636	587,673	755,669	4,737,716	4,526,045
Chatham.....	1,650	16,441	13,984,375	694,338	665,929	1,792,908	943,501
East Windsor.....	1,677	16,203	23,950,260	891,534	1,176,693	5,708,147	5,452,229
North Bay.....	2,100	15,978	9,853,942	756,270	739,982	3,223,257	3,088,416
Galt.....	1,600	13,752	11,165,280	692,234	681,946	4,916,647	4,318,353
Belleville.....	1,800	13,443	10,043,998	681,870	675,084	4,933,126	3,841,469
Owen Sound.....	2,909	12,778	8,758,152	668,623	653,479	3,493,463	2,166,287
Timmins.....	852	12,539	6,876,006	614,808	571,440	1,465,568	1,344,251
Sandwich.....	2,033	11,819	15,846,355	808,906	879,373	4,003,337	3,875,176
Walkerville.....	1,000	11,219	16,542,100	825,582	884,171	4,489,264	3,761,214
Woodstock.....	1,525	10,898	7,340,955	540,895	549,247	2,290,794	1,430,268
Cornwall.....	577	10,804	9,239,560	395,316	346,144	1,354,458	742,904
Welland.....	1,100	10,141	9,687,920	585,220	589,441	4,206,751	2,518,391
Manitoba—							
Winnipeg.....	15,961	209,286	245,528,303	—	—	—	58,800,341 ^a
Brandon.....	5,428	17,560	14,214,524	—	—	—	3,180,376 ^a
St. Boniface.....	11,641	16,321	10,613,570	—	—	—	5,146,434 ^a
Saskatchewan—							
Regina.....	8,408	52,500	47,427,516	7,263,844	7,226,462	22,897,280	17,560,211
Saskatoon.....	8,000	42,000	33,744,816	7,277,554	7,406,380	16,770,752	16,645,678
Moose Jaw.....	9,410	20,750	20,861,051	2,514,666	2,732,243	12,279,365	7,854,383
Alberta—							
Calgary.....	25,920 ¹	85,000	64,180,287	5,461,514	5,468,791	—	28,919,547
Edmonton.....	28,200 ¹	77,557	65,687,070	7,137,212	6,614,067	—	41,486,085
Lethbridge.....	6,944 ²	13,984	9,698,430	857,946	725,604	—	4,087,457
Medicine Hat.....	10,880 ²	11,000	9,894,905	804,893	769,622	—	2,259,034
British Columbia—							
Vancouver.....	27,965	230,000	368,535,209	14,512,923	14,930,498	—	74,256,298
Victoria.....	4,637	38,750	59,130,004	2,792,628	3,072,558	—	17,346,862
New Westminster.....	3,481	18,025	21,884,130	1,254,799	1,261,030	—	6,979,152

¹For the year 1925. ²Census 1921. ³Census 1931. ⁴Estimated population. ⁵Population, 1931; other statistics, 1929. ⁶Debentures outstanding.

Section 4.—National Wealth and Income

Subsection 1.—National Wealth.

There are several methods of computing national wealth, *i.e.*, the aggregate value of the property within the nation apart from undeveloped natural resources. Perhaps the most familiar of these methods is that of working back to capital values through income tax returns, but this can be applied only in countries where incomes are thoroughly appraised. A second method is that of estimation from probate returns, the value of the estates of deceased persons being regarded as representative. A third is that of a complete census, based upon a canvass of the individual. In the accompanying tables a fourth method, namely, the so-called "inventory" method, is employed; it consists in totalling the amounts known from various sources to be invested in agriculture, manufactures, dwellings, etc.

It must be understood that statistics of this character are suggestive and indicative rather than strictly accurate. The concept of wealth is distinctly intangible, and there are numerous elements of uncertainty in a calculation of this nature. The present survey, which includes the provincial distribution of Canadian wealth, places the estimated aggregate of the tangible wealth of the Dominion, exclusive of undeveloped natural resources, at \$30,840,000,000 in 1929, as compared with \$29,630,000,000 in 1928,¹ \$27,668,000,000 in 1927, \$26,691,482,000 in 1926, \$25,673,174,000 in 1925 and \$22,195,302,000 in 1921. These figures, however, are not exactly comparable, in view of certain improvements and additions that have been made in the method of estimation and in the items included. An increase of \$1,210,000,000 is shown in the national wealth in the year 1929, and of over \$8,600,000,000 in the eight years 1921 to 1929.

Aggregate and Per Capita Wealth of the Provinces, 1929.—As regards the provincial distribution of wealth, Ontario ranked first with estimated aggregate wealth of \$10,628,000,000 or 34.46 p.c. of the total, and Quebec second with estimated wealth of \$8,265,000,000 or 26.8 p.c. of the whole. Saskatchewan was third, with estimated wealth of \$3,047,000,000 or 9.88 p.c. of the total for the Dominion.

While Ontario led in absolute wealth, the western provinces came first in per capita wealth; British Columbia held first rank with a per capita wealth of \$4,013; Alberta second with \$3,518; Saskatchewan third with \$3,451 and Manitoba sixth with \$2,910. These figures may be compared with \$3,188 and \$2,982, the per capita wealth of Ontario and Quebec respectively, and \$3,076, the per capita wealth for the whole Dominion. Further details are furnished in Table 31.

As the statistics of population and wealth for the Yukon are uncertain, the per capita estimate of wealth is open to question and has not been shown.

¹Revised figures.

31.—Provincial Distribution of the National Wealth of Canada, with Percentage and Per Capita Analyses, 1928 and 1929.

NOTE.—Figures for 1921 and 1925 are given on pp. 849-850 of the 1927-28 Year Book, for 1926 on p. 827 of the 1930 Year Book and for 1927 on p. 870 of the 1931 Year Book.

Province.	Estimated Wealth.	Percentage Distribu- tion of Wealth.	Estimated Population June 1.	Percentage Distribu- tion of Population.	Wealth per capita. ⁴
1928. ³	\$	p.c.	No.	p.c.	\$
Prince Edward Island.....	157,000,000 ³	0.53	88,000	0.89	1,784
Nova Scotia.....	899,000,000 ³	3.03	515,000	5.24	1,746
New Brunswick.....	821,000,000 ³	2.77	401,000	4.08	2,047
Quebec.....	7,506,000,000 ³	25.34	2,715,000	27.61	2,765
Ontario.....	10,155,000,000 ³	34.27	3,278,000	33.34	3,098
Manitoba.....	1,973,000,000 ³	6.66	664,000	6.75	2,971
Saskatchewan.....	3,100,000,000 ³	10.46	862,000	8.77	3,596
Alberta.....	2,378,000,000 ³	8.03	658,000	6.69	3,614
British Columbia.....	2,622,000,000 ³	8.85	641,000	6.52	4,090
Yukon.....	19,000,000 ³	0.06	4,000	0.04	2
Totals.....	29,630,000,000³	100.00	9,833,000¹	100.00¹	3,013
1929.					
Prince Edward Island.....	164,000,000	0.53	88,000	0.88	1,864
Nova Scotia.....	911,000,000	2.95	515,000	5.14	1,769
New Brunswick.....	788,000,000	2.56	404,000	4.03	1,950
Quebec.....	8,265,000,000	26.80	2,772,000	27.64	2,982
Ontario.....	10,628,000,000	34.46	3,334,000	33.25	3,188
Manitoba.....	1,970,000,000	6.39	677,000	6.75	2,910
Saskatchewan.....	3,047,000,000	9.88	883,000	8.81	3,451
Alberta.....	2,406,000,000	7.80	684,000	6.82	3,518
British Columbia.....	2,644,000,000	8.57	659,000	6.57	4,012
Yukon.....	17,000,000	0.06	4,000	0.04	2
Totals.....	30,840,000,000	100.00	10,027,000¹	100.00¹	3,076

¹Includes 7,000 population in the Northwest Territories or 0.07 p.c.

²As the statistics of population and wealth for the Yukon are uncertain, the per capita estimate of wealth is open to question and has not been shown. ³Revised figures. ⁴Per capita figures are worked out on the basis of revised populations, see p. 110.

Wealth of Canada, by Items, 1929.—In the items included in Table 32, all duplications have been excluded. In any consideration of the individual items it should be remembered that each item covers only the portion of wealth which is mentioned in the description of the item. For example, the item of fisheries includes only capital invested in primary operations, while capital invested in fish-canning and -curing establishments is included under manufactures, though it might also be considered as part of the wealth connected with fisheries. In the same way, the items for manufactures do not include lands and buildings in urban centres which are shown under the heading of urban real property.

The total agricultural wealth in 1929 was \$7,939,477,000, which represented 25.74 p.c. of the whole. This amount included the value of agricultural production in 1929, or \$1,631,124,000, to cover the average stocks of agricultural goods in the possession of farmers and traders and the amount invested in preparation for the new crop.

The largest element in the national wealth was urban real property which for 1929 assumed first place over agriculture although usually in second place. This item included the assessed valuations of taxed and exempted property, to which was added one-third to provide for undervaluation by assessors and for roads,

bridges and sewers. The estimated value, as based on returns for 1929 received in the Bureau from the municipalities, was \$8,251,011,000 or 26.75 p.c. of the total wealth of the Dominion.

The wealth invested in steam railways, computed from the cost of road and equipment, and distributed by provinces on the basis of mileage, constituted the third largest item, amounting to \$3,153,351,000 or 10.22 p.c. of the total.

Another important item is the tangible value of the forests, amounting to \$1,877,000,000 or 6.09 p.c., and including the estimated value of accessible raw materials, pulpwood, and capital invested in woods operations. In 1929, as in 1923, 1927 and 1926, this item included an estimate of the present value of young growth accounting for an increase in the estimates for these years compared with 1925.

The value of machinery and tools in manufacturing establishments and of lands and buildings of manufacturing concerns in rural districts was estimated at \$1,418,040,000 in 1929 or 4.60 p.c. In addition the estimated value of materials on hand and stocks in process in manufacturing establishments was set at \$837,805,000 in 1929 or 2.72 p.c. This item in 1925 included an estimate for stocks of manufactured goods in the hands of dealers, but in the present statement this is included in the item for trading establishments, which shows the estimated value of furniture and fixtures, delivery equipment, and materials and stocks on hand in 1929 as \$1,136,291,000 or 3.68 p.c. of the total. Three additional classes of wealth have been included in the estimate for 1929 which were not taken account of in earlier estimates. To this extent, and on account of the later revision of earlier figures, the totals of this and other years are not comparable. The three classes so included are harbours, highways and aircraft. The \$367,488,000 credited to harbours represents the approximate capital expenditures for harbour works such as wharves, piers, breakwaters, dredging or other harbour and river improvements. The investment in certain piers and wharves connected with the fishing industry is, however, included under the item "Fisheries".

The amount credited to highways is estimated on a conservative basis. It is not intended to be all-inclusive, but is considered the best estimate that can be made from existing data.

The value of aircraft is taken as the original cost of the aircraft registered in the different provinces less an allowance for depreciation worked out with the co-operation of the Air Service Branch of the Department of National Defence. The resulting estimate of \$2,398,000 is included with that of "shipping".

On the basis of the estimated population of 1929 of 10,027,000, the per capita investment in urban real estate was \$823, in agriculture \$792, in steam railways \$314, in the forests \$187 and in household furnishings and personal property \$137. The per capita wealth of all kinds was \$3,076. Further details of the items are presented in Tables 32 and 33.

2.—An Estimate of the National Wealth of Canada, with Percentage and Per Capita Distribution of Component Items, 1929.

Classification of Wealth.	Aggregate Amount.	Percentage of Total.	Average Amount per head of Population. ³
	\$	p.c.	\$
Farm Values (land, buildings, implements, machinery and live stock).....	6,308,353,000	20.45	629.14
Agricultural Products in the possession of farmers and traders..	1,631,124,000	5.29	162.67
Totals, Agricultural Wealth.....	7,939,477,000	25.74	791.81
Mines (capital employed).....	867,021,000	2.81	86.47
Forests (estimated value of accessible raw materials, pulpwood and capital invested in woods operations).....	1,877,000,000	6.09	187.19
Fisheries (capital invested in boats, gear, etc., in primary operations).....	33,935,000	0.11	3.39
Central Electric Stations (capital invested in equipment, materials, etc.).....	554,327,000	1.80	55.28
Manufactures (machinery and tools, and estimate for capital in rural lands and buildings, duplication excluded).....	1,418,040,000	4.60	141.42
Manufactures (materials on hand and stocks in process, duplication excluded).....	837,805,000	2.72	83.55
Construction, Custom and Repair (estimate of capital invested in machinery and tools and materials on hand).....	137,685,000	0.45	13.73
Trading Establishments (estimate of the value of furniture and fixtures, delivery equipment and materials on hand).....	1,136,291,000	3.68	113.32
Steam Railways (investment in road and equipment).....	3,153,351,000	10.22	314.49
Electric Railways (investment in road and equipment).....	240,111,000	0.78	23.95
Telephones (cost of property and equipment).....	291,589,000	0.95	29.08
Urban Real Property (assessed valuations and exempted property and estimate for undervaluation by assessors and for roads, sewers, etc.).....	8,251,011,000	26.75	822.88
Canals (amount expended on construction to Mar. 31, 1930)....	241,946,000	0.79	24.13
Harbours ¹ (approximate amount expended to Mar. 31, 1930)....	367,488,000	1.19	36.65
Shipping (including aircraft) ²	149,306,000	0.48	14.89
Imported Merchandise in store (estimated at one-half imports during 1929).....	649,477,000	2.11	64.77
Automobiles (estimate of the value of automobiles registered)..	758,424,000	2.46	75.64
Highways, etc. ¹	364,896,000	1.18	36.39
Household Furnishings, Clothing, etc. (value estimated from production and trade statistics).....	1,370,000,000	4.44	136.63
Specie, Coin and other Currency held by the Government, chartered banks and the general public.....	201,030,000	0.65	20.06
Grand Totals	30,840,210,000	100.00	3,075.72

¹This class of wealth was not included in estimates published for previous years in earlier editions of the Year Book.

²The total for "shipping" includes, for the first time, an estimate for aircraft amounting to \$2,398,000 for 1929.

³See p. 110 or Table 31 for the revised estimate of population upon which these per capita figures are based.

Analyses by Provinces and Classes of Wealth.—In Table 33 will be found detailed statistics of the wealth of each province by leading items. Again the suggestive character rather than the strict accuracy of such data must be emphasized. The specie holdings, for instance, are distributed among the provinces according to their populations since they are an asset of Canada as a whole rather than of the particular locality in which they happen to be deposited.

33.—Estimate of National Wealth of Canada, 1929, by Provinces and Classes.

NOTE.—For a fuller description of the various items, see the table immediately preceding.

Classification of Wealth.	Canada.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
	\$	\$	\$	\$	\$	\$
Farm values.....	6,308,353,000	67,015,000	134,725,000	141,130,000	1,133,343,000	1,778,476,000
Agricultural products.....	1,631,124,000	25,976,000	43,412,000	39,919,000	313,698,000	509,208,000
Totals, Agricultural Wealth, 1929.....	7,939,477,000	92,991,000	178,137,000	181,049,000	1,447,041,000	2,287,684,000
Mines.....	867,021,000	1	67,357,000	4,945,000	146,332,000	302,938,000
Forests.....	1,877,000,000	1,600,000	58,000,000	78,700,000	706,000,000	422,500,000
Fisheries.....	33,935,000	725,000	7,447,000	4,157,000	2,334,000	3,479,000
Central electric stations.....	554,327,000	447,000	8,397,000	13,775,000	221,135,000	221,421,000
Manufactures (machinery and tools, and estimate for capital in rural lands and buildings; duplication excluded).....	1,418,040,000	1,301,000	36,778,000	40,221,000	439,539,000	661,790,000
Manufactures (materials on hand and stocks in process).....	837,805,000	496,000	21,582,000	21,208,000	246,601,000	442,238,000
Construction, custom and repair....	137,685,000	171,000	3,176,000	1,678,000	40,711,000	53,495,000
Trading establishments (fixtures and delivery equipment and materials on hand)	1,136,291,000	5,168,000	42,119,000	36,926,000	306,228,000	410,558,000
Steam railways.....	3,153,351,000	21,190,000	109,020,000	148,481,000	375,503,000	834,690,000
Electric railways.....	240,111,000	—	10,077,000	3,063,000	67,846,000	109,673,000
Canals.....	241,946,000	—	1,494,000	45,000	35,804,000	204,603,000
Telephones.....	291,589,000	766,000	8,457,000	5,369,000	60,227,000	117,340,000
Urban real property	8,251,011,000	13,954,000	181,262,000	98,894,000	3,190,295,000	3,032,338,000
Harbours.....	367,488,000	4,383,000	20,866,000	31,869,000	165,173,000	91,428,000
Shipping.....	149,306,000	882,000	13,417,000	3,615,000	54,167,000	39,284,000
Imported merchandise in store.....	649,477,000	786,000	17,846,000	13,225,000	169,125,000	334,034,000
Automobiles.....	758,424,000	3,949,000	25,354,000	20,360,000	105,785,000	347,267,000
Highways, etc.....	364,896,000	1,300,000	11,992,000	13,188,000	52,816,000	186,000,000
Household furnishings, clothing, etc.	1,370,000,000	12,052,000	77,043,000	58,692,000	376,591,000	457,903,000
Specie, coin and other currency held by the Government, chartered banks and the general public.	201,030,000	1,768,000	11,305,000	8,612,000	55,260,000	67,191,000
Totals.....	30,840,210,000	163,929,000	911,126,000	788,072,000	8,264,513,000	10,627,854,000
Percentages.....	100-00	0-53	2-95	2-56	26-80	34-46

¹ Included in Nova Scotia.

33. —Estimate of National Wealth of Canada, 1929, by Provinces and Classes
—concluded.

Classification of Wealth.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.
	\$	\$	\$	\$	\$
Farm values.....	569,841,000	1,413,120,000	875,110,000	195,593,000	—
Agricultural products.....	119,472,000	299,304,000	223,246,000	56,889,000	—
Totals, Agricultural Wealth, 1929.....	689,313,000	1,712,424,000	1,098,356,000	252,482,000	—
Mines.....	18,020,000	6,098,000	142,943,000	170,575,000	7,813,000
Forests.....	24,500,000	67,700,000	97,500,000	418,500,000	2,000,000
Fisheries.....	1,317,000	122,000	547,000	13,795,000	12,000
Central electric stations.....	25,734,000	7,445,000	13,256,000	41,910,000	807,000
Manufactures (machinery and tools, and estimate for capital in rural lands and buildings; duplication excluded).....	31,460,000	6,842,000	26,803,000	173,306,000	²
Manufactures (materials on hand and stocks in process)...	24,847,000	13,258,000	18,318,000	49,257,000	²
Construction, custom and repair	9,652,000	8,772,000	7,640,000	12,390,000	—
Trading establishments.....	95,053,000	82,203,000	70,819,000	87,217,000	—
Steam railways.....	329,669,000	595,845,000	425,560,000	308,940,000	4,453,000
Electric railways.....	16,364,000	4,322,000	6,265,000	22,501,000	—
Canals.....	—	—	—	—	—
Telephones.....	20,347,000	31,351,000	25,284,000	22,383,000	65,000
Urban real property.....	479,322,000	246,594,000	256,795,000	751,557,000	—
Harbours.....	4,703,000	938,000	—	48,108,000	20,000
Shipping.....	1,636,000	168,000	146,000	35,485,000	506,000
Imported merchandise in store	28,475,000	17,188,000	19,564,000	48,981,000	253,000
Automobiles.....	49,774,000	82,322,000	63,310,000	60,183,000	120,000
Highways, etc.....	13,600,000	25,000,000	29,000,000	32,000,000	—
Household furnishings, cloth- ing, etc.....	92,832,000	121,317,000	90,424,000	82,726,000	420,000
Specie, coin and other currency held by the Government, chartered banks and the general public.....	13,622,000	17,802,000	13,269,000	12,139,000	62,000
Totals.....	1,970,240,000	3,047,242,000	2,406,268,000	2,644,435,000	16,531,000
Percentages.....	6.39	9.88	7.80	8.57	0.06

² Included in British Columbia.

Subsection 2.—National Income and Income Tax Statistics.

The national income of Canada is necessarily less than its national production, a total for which is suggested in the general survey of production on pp. 163-169 of this volume. If, as there pointed out, there is no reason to suppose that those whose activities are not connected with the production of "form utilities" are less "productive" in the broad sense of the term than others, the total value of the production of 1929 must have been not less than \$5,900,000,000.

In order to arrive at the figure of national income, however, certain heavy deductions from the above amount must be made—deductions especially connected with the maintenance of the industrial equipment of the country—providing not only for depreciation but for obsolescence and replacement by new and improved apparatus of production. Altogether, the charges under this head may have been not less than \$400,000,000. This would leave the 1929 income of the Canadian people at somewhere in the neighbourhood of \$5,500,000,000.

Incomes Assessed for Income Tax in Canada.¹—In those countries of the world where an income tax has been established for a considerable time the figures of the assessed income have been generally accepted as furnishing a guide both to the amount and to the distribution of the total national income by classes. Estimates of the national income, based upon income tax statistics, have been published, for example, in Great Britain and in the United States.

In Canada, the income tax is a newer thing than in either of the above-mentioned countries; also, in a newer country than either, incomes are to a greater extent received in kind. Both of these considerations render it improbable that so large a percentage of the total national income of Canada is brought under the notice of the income tax authorities as in Great Britain or the United States. Nevertheless the data collected by the Income Tax Branch of the Department of National Revenue in the course of its administration of the income war tax, are significant both with regard to the total income assessed and with regard to the distribution of that income among various classes of the population, as well as by size of income groups.

Table 34 shows the number of individuals and corporations paying income tax with the aggregate incomes on which they were assessed, for the fiscal years 1921 to 1931, while Tables 35 and 36 show, respectively, the incomes assessed and the amount of income tax received, by provinces, for the fiscal years ended 1927 to 1931. Tables 37 and 38 show the amount of income tax paid during the last four fiscal years, classified according to income classes and occupations respectively.

¹ This material has been revised by the Income Tax Branch of the Department of National Revenue.

4.—Amount of Income Assessed for the Purposes of the Income War Tax, by Individuals and Corporations, fiscal years ended Mar. 31, 1921-31.

Fiscal Year.	Individuals.		Corporations.		Total Amount.
	No.	Amount.	No.	Amount.	
		\$		\$	\$
1921.....	190,561	—	3,696	—	912,410,429
1922.....	290,584	1,058,577,617	8,286	403,951,553	1,462,529,170
1923.....	281,182	823,100,878	6,010	269,307,047	1,092,407,925
1924.....	239,036	802,617,497	5,569	305,410,374	1,108,027,871
1925.....	225,514	701,892,820	6,236	297,267,428	999,160,248
1926.....	209,539	697,016,973	5,738	306,093,673	1,003,110,646
1927.....	116,029	465,689,900	5,777	278,494,991	744,184,891 ¹
1928.....	122,026	604,736,116	6,121	435,496,832	1,040,232,948
1929.....	129,663	668,687,536	7,438	526,714,731	1,195,402,267
1930.....	142,154	781,174,030	7,957	544,019,414	1,325,193,444
1931.....	143,601	815,714,684	7,603	555,763,956	1,371,478,640

¹In 1927 the exemption limit was raised from \$2,000 to \$3,000 for married, and from \$1,000 to \$1,500 for single persons.

5.—Amount of Income Assessed for the Purposes of the Income War Tax, by Provinces, fiscal years ended Mar. 31, 1927-31.

Province.	Amount of Income Assessed.				
	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Prince Edward Island.....	1,564,607	1,906,145	2,201,506	2,293,916	2,238,000
Nova Scotia.....	14,586,443	19,187,670	20,418,952	20,183,735	22,954,032
New Brunswick.....	14,727,822	15,855,847	16,638,582	16,743,421	17,441,133
Quebec.....	214,172,270	247,108,323	342,206,962	402,108,906	374,899,266
Ontario.....	330,875,841	501,698,431	554,038,353	599,709,588	634,211,212
Manitoba.....	50,118,276	73,008,012	69,131,365	83,659,145	84,061,015
Saskatchewan.....	27,080,457	39,130,763	45,770,126	42,729,044	38,799,748
Alberta.....	29,766,879	37,164,202	37,692,873	47,251,766	79,909,021
British Columbia.....	60,602,251	103,587,321	106,218,237	109,367,418	115,849,332
Yukon.....	690,045	1,586,234	1,085,310	1,146,505	1,115,781
Totals.....	744,184,891	1,040,232,948	1,195,402,266	1,325,193,444	1,371,478,640

6.—Amount of Income Tax Collected, by Provinces, fiscal years ended Mar. 31, 1927-31.

Province.	Amount of Income Tax Collected.				
	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Prince Edward Island.....	28,160	37,933	38,654	45,178	45,671
Nova Scotia.....	539,843	549,413	593,349	647,213	666,009
New Brunswick.....	524,820	655,234	553,686	611,978	612,947
Quebec.....	15,587,882	19,061,843	19,822,209	23,308,394	23,087,571
Ontario.....	22,631,659	25,614,930	28,690,232	33,128,633	34,713,871
Manitoba.....	2,393,250	3,141,123	3,272,606	3,707,769	3,537,771
Saskatchewan.....	658,257	775,075	894,494	1,037,406	932,954
Alberta.....	1,170,952	1,273,786	1,405,606	2,000,979	2,316,043
British Columbia.....	3,832,152	5,440,359	4,123,203	4,495,649	5,106,454
Yukon.....	19,334	21,351	28,233	19,857	19,034
Head Office.....	—	—	—	17,670	9,697
Totals.....	47,386,309	56,571,047	59,422,272	69,020,726	71,048,022

37.—Number of Individual and Corporate Tax Payers, by Size of Income and Amount of Taxes Paid under the Income War Tax Act, fiscal years ended Mar. 31, 1928-31.

1.—INDIVIDUALS.

Income Class.	1928.		1929.		1930.		1931.	
	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
		\$		\$		\$		\$
Under \$2,000.....	36,969	454,883	36,857	341,777	38,709	284,797	38,788	171,232
\$ 2,000 to \$ 3,000..	21,988	875,449	22,374	719,631	20,090	290,052	20,885	316,455
\$ 3,000 to \$ 4,000..	18,049	286,492	19,408	280,990	24,429	399,316	22,869	327,722
\$ 4,000 to \$ 5,000..	13,273	374,588	15,049	386,046	17,468	402,594	17,909	437,407
\$ 5,000 to \$ 6,000..	8,371	407,029	9,529	394,702	10,980	441,412	11,348	448,932
\$ 6,000 to \$ 7,000..	6,555	935,743	6,833	770,420	7,349	596,835	7,483	478,833
\$ 7,000 to \$ 8,000..	3,431	428,150	3,950	412,301	4,620	453,082	4,814	472,643
\$ 8,000 to \$ 9,000..	2,491	443,864	2,785	416,031	3,313	470,636	3,449	484,866
\$ 9,000 to \$10,000..	1,974	506,448	2,185	472,862	2,607	534,755	2,609	518,654
\$10,000 to \$15,000..	4,519	2,473,219	5,520	2,396,215	6,575	2,650,707	6,825	2,528,682
\$15,000 to \$20,000..	1,804	1,864,209	2,197	1,964,324	2,540	2,226,401	2,878	2,386,232
\$20,000 to \$25,000..	1,001	1,948,636	1,027	1,806,366	1,181	1,937,343	1,314	2,071,211
\$25,000 to \$30,000..	490	1,467,231	579	1,489,237	674	1,737,813	784	1,860,844
\$30,000 to \$50,000..	695	3,458,767	847	3,925,527	1,016	4,486,976	1,045	4,277,733
\$50,000 and over...	416	7,552,499	523	9,328,921	603	10,571,899	601	10,131,843
Totals.....	122,026	23,477,207	129,663	25,105,350	142,154	27,484,118	143,601	26,913,471
Unclassified amounts.....	—	275,536	—	285,270	—	275,882	—	291,611
Refunds.....	—	23,752,743	—	25,390,620	—	27,760,000	143,601	27,205,083
	—	529,852	—	597,222	—	522,497	—	580,900
Net Totals....	122,026	23,222,891	129,663	24,793,398	142,154	27,237,503	143,601	26,624,184

2.—CORPORATIONS.

\$ 2,000 to \$ 3,000..	1,202	122,251	1,491	122,492	1,528	76,349	1,400	66,321
\$ 3,000 to \$ 4,000..	458	70,584	695	100,149	781	119,366	723	98,911
\$ 4,000 to \$ 5,000..	397	106,467	495	115,460	551	132,597	468	111,444
\$ 5,000 to \$ 6,000..	257	89,153	370	115,179	440	142,324	426	146,881
\$ 6,000 to \$ 7,000..	412	230,713	392	217,825	345	140,715	334	142,251
\$ 7,000 to \$ 8,000..	215	132,983	244	129,723	274	142,926	249	123,011
\$ 8,000 to \$ 9,000..	161	94,546	223	125,741	232	150,951	203	137,011
\$ 9,000 to \$10,000..	142	101,449	193	122,736	222	160,785	168	125,471
\$10,000 to \$15,000..	580	644,238	692	659,128	702	621,296	654	587,711
\$15,000 to \$20,000..	308	410,701	390	515,068	441	590,491	438	567,011
\$20,000 to \$25,000..	276	585,759	313	605,628	289	494,263	326	597,811
\$25,000 to \$30,000..	185	400,069	222	478,418	238	533,373	254	550,911
\$30,000 to \$50,000..	435	1,423,472	530	1,672,228	511	1,551,375	563	1,802,311
\$50,000 and over...	1,086	29,772,475	1,181	30,410,897	1,398	37,244,203	1,393	39,370,011
Totals.....	6,121¹	34,198,796²	7,438³	35,408,679³	7,957⁴	42,117,562³	7,603⁴	44,440,241³
Unclassified Amounts.....	—	288,048	—	263,665	—	332,519	—	471,411
Refunds.....	6,121 ¹	34,486,844 ¹	7,438 ³	35,672,344 ³	7,957 ⁴	42,450,081 ³	7,603 ⁴	44,911,671 ³
	—	1,138,687	—	1,043,469	—	666,857	—	487,811
Net Totals....	6,121¹	33,348,157¹	7,438³	34,628,875³	7,957⁴	41,783,224³	7,603⁴	44,423,861³

¹Totals include 7 corporations paying \$13,936 in taxation, grouped to conceal net income and identity of taxpayers. ²Totals include 7 corporations paying \$18,007 in taxation, grouped to conceal net income and identity of taxpayer. ³Totals include 5 corporations paying \$16,548 in taxation, grouped to conceal net income and identity of taxpayers. ⁴Totals include 4 corporations paying \$12,367 in taxation, grouped to conceal net income and identity of taxpayers.

8.—Income Tax Paid, by Occupations of the Tax Payers, fiscal years ended Mar. 31, 1928-31.

1.—INDIVIDUALS.

Occupation.	1928.		1929.		1930.		1931.	
	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
		\$		\$		\$		\$
Agriculturians.....	3,163	205,454	3,111	154,733	2,626	123,909	2,276	131,910
Professionals.....	6,088	1,444,098	6,771	1,621,398	7,439	1,716,675	7,448	1,913,761
Employees.....	83,146	8,522,507	87,469	7,838,590	95,328	8,336,416	99,658	8,717,015
Merchants, retail	8,685	1,041,337	9,229	1,217,292	11,117	1,248,277	10,174	1,196,920
Merchants, whole-sale.....	1,178	421,517	1,411	481,835	1,500	464,726	1,563	454,540
Manufacturers.....	901	335,675	1,001	245,454	1,140	263,525	947	225,135
Natural resources..	172	97,878	171	47,949	243	79,677	174	57,942
Financial.....	7,654	5,066,588	8,645	6,085,230	9,534	7,084,327	9,278	6,641,080
Personal corporations.....	470	2,583,228	644	3,523,192	912	3,614,204	597	3,114,145
Family corporations.....	1,138	740,578	2,247	1,269,858	3,129	1,881,138	3,235	1,953,544
All others.....	9,431	3,018,347	8,964	2,619,819	9,186	2,671,243	8,251	2,507,479
Unclassified.....	—	275,536	—	285,270	—	275,882	—	291,616
Totals.....	122,026	23,752,743	129,663	25,390,620	142,154	27,759,999	143,601	27,205,087
Refunds.....	—	529,852	—	597,222	—	522,497	—	580,906
Net Totals....	122,026	23,222,891	129,663	24,793,398	142,154	27,237,502	143,601	26,624,181

2.—CORPORATIONS.

Agriculturians.....	35	33,812	83	50,418	111	58,028	88	56,404
Merchants, retail..	1,246	2,273,736	1,478	2,546,367	1,551	2,836,933	1,349	2,798,156
Merchants, whole-sale.....	826	2,245,549	1,019	2,637,469	1,071	2,981,802	958	2,975,641
Manufacturers.....	2,030	16,132,580	2,427	17,121,952	2,502	19,885,735	2,475	21,988,645
Natural resources..	210	2,594,892	244	2,656,326	309	3,617,300	295	4,211,330
Financial.....	693	2,554,505	886	3,052,120	1,021	3,960,486	1,134	4,261,232
Transportation and public utilities ..	310	5,480,732	386	5,380,264	358	6,686,498	345	6,192,278
All others.....	771	2,882,990	915	1,963,764	1,034	2,090,779	959	1,956,557
Unclassified.....	—	288,048	—	263,664	—	332,520	—	471,430
Totals.....	6,121	34,486,844	7,438	35,672,344	7,957	42,450,081	7,603	44,911,673
Refunds.....	—	1,138,687	—	1,043,469	—	666,857	—	487,832
Net Totals....	6,121	33,348,157	7,438	34,628,875	7,957	41,783,224	7,603	44,423,841
Grand Totals, Individuals and Corporations...	—	56,571,048	—	59,422,273	—	69,020,726	—	71,048,022

Subsection 3.—Outside Capital Invested in Canada and Canadian Capital Invested Elsewhere.¹

An estimate of the outside capital invested in Canada and the Canadian capital invested outside of the Dominion is now prepared annually by the Internal Trade Branch of the Dominion Bureau of Statistics. Any estimate of this character is liable to a margin of error, but the utmost care has been taken in the computation

¹Revised by Herbert Marshall, B.A., F.S.S., Chief, Internal Trade Branch, Dominion Bureau of Statistics. For a list of the publications of this Branch see Chapter XXIX, under "Internal Trade".

and it is believed that the figures approximate fairly to actual conditions. More complete information is being obtained from year to year, enabling corrections to be made in previous estimates such as were published at p. 836 of the 1929 Year Book. Details of the investment of outside capital in Canada according to the latest revision (February 1932) are given for the five last available years in Table 39.

It is estimated that the total investment of British and foreign capital in Canada on Jan. 1, 1930, was \$6,125,959,000. Of this sum, \$2,228,024,000 was British capital, \$3,726,745,000 was from the United States and \$171,188,000 from other countries. Though these totals are large, it should be remembered that the national wealth of the Dominion in 1929 is estimated at \$30,840,210,000 (p. 745) exclusive of the value of those undeveloped natural resources in which some of the outside capital is invested, and that it is inevitable that at the present stage Canada should seek the assistance of outside capital to develop the undeveloped natural resources of the Dominion.

It must also be borne in mind that Canadians have invested large amounts of capital abroad. The Bureau estimates that Canadian investments in other countries amounted to \$1,781,345,000 at the beginning of 1930, or nearly 30 p.c. of the amount of outside investments in Canada. Of this, \$1,021,855,000 was placed in the United States, \$80,874,000 in Great Britain and \$678,616,000 in other countries.

It is estimated that the amount of business capital employed in Canada is \$17,500,000,000. This sum includes the bonded indebtedness of Dominion, Provincial and municipal governments, investments in railways, all manufacturing concerns, mines and metal industries, public utilities, trading establishments, finance, insurance, land and mortgage. It does not include private capital in domestic enterprises such as farms, homes, etc. Of this sum it is estimated that 65 p.c. or \$11,500,000,000 is owned in Canada; 21 p.c. or \$3,725,000,000 in United States; 13 p.c. or \$2,228,000,000 in Great Britain; 1 p.c. or \$171,000,000 in other countries.

If the basis of comparison is total national wealth, foreign and British investments decrease in significance. Canada's national wealth in 1930 was probably \$30,000,000,000; British and foreign investments in Canada were about \$6,000,000,000 or 20 p.c.

39.—Estimated British and Foreign Investments in Canada, Jan. 1, 1926-30.

(000's omitted.)

Type of Investment.	Jan. 1, 1926.	Jan. 1, 1927.	Jan. 1, 1928.	Jan. 1, 1929.	Jan. 1, 1930.
Total British and Foreign Investments—					
Government Securities (Dominion, Provincial and Municipal).....	1,157,670	1,190,772	1,199,492	1,179,027	1,184,660
Public Utilities—					
Railways.....	1,424,726	1,439,642	1,504,825	1,537,924	1,674,800
Other Public Utilities (Traction, Light, Heat, Power, Telephone, etc.)	473,625	559,839	593,944	573,464	628,220
Industries—					
Pulp, Paper and Lumber.....	368,555	395,956	475,343	510,531	520,280
Mining.....	212,006	214,606	226,120	273,912	281,600
Metal Industries.....	548,525	542,580	543,203	561,966	546,900
All other Industries.....	451,932	452,833	469,348	490,469	492,300
Trading Establishments.....	191,461	209,510	222,563	234,753	250,000
Finance and Insurance.....	155,906	161,121	189,480	192,304	209,000
Land and Mortgage.....	320,000	325,000	334,346	338,029	338,000
Totals.....	5,304,406	5,491,859	5,758,664	5,892,379	6,125,959

39.—Estimated British and Foreign Investments in Canada, Jan. 1, 1926-30

—concluded.

(000's omitted.)

Type of Investment.	Jan. 1, 1926.	Jan. 1, 1927.	Jan. 1, 1928.	Jan. 1, 1929.	Jan. 1, 1930.
Investments by Great Britain—					
Government Securities (Dominion, Provincial and Municipal).....	508,448	495,577	478,825	475,595	477,296
Public Utilities—					
Railways.....	863,357	862,315	867,080	870,523	898,523
Other Public Utilities (Traction, Light, Heat, Power, Telephone, etc.).....	149,779	151,514	152,852	106,665	116,880
Industries—					
Pulp, Paper and Lumber.....	57,017	68,496	75,902	76,072	75,299
Mining.....	30,724	31,724	34,728	49,477	52,800
Metal Industries.....	42,698	42,366	42,496	42,976	45,576
All other Industries.....	160,262	167,084	171,691	177,706	179,046
Trading Establishments.....	31,581	51,287	60,543	61,309	75,000
Finance and Insurance.....	97,753	97,800	112,930	108,459	118,446
Land and Mortgage.....	187,000	187,000	189,998	189,156	189,158
Totals.....	2,128,619	2,155,163	2,187,045	2,157,938	2,228,024
Investments by United States—					
Government Securities (Dominion, Provincial and Municipal).....	637,881	683,995	709,257	692,022	695,873
Public Utilities—					
Railways.....	536,408	549,866	608,817	638,383	743,074
Other Public Utilities (Traction, Light, Heat, Power, Telephone, etc.).....	309,648	394,934	428,148	453,482	496,740
Industries—					
Pulp, Paper and Lumber.....	293,966	319,979	392,763	427,646	438,104
Mining.....	176,347	177,747	184,753	216,637	220,000
Metal Industries.....	495,510	489,930	490,363	508,659	489,945
All other Industries.....	282,106	276,223	284,141	298,124	298,410
Trading Establishments.....	155,295	153,687	157,524	168,535	170,000
Finance and Insurance.....	45,213	50,431	61,771	70,383	76,641
Land and Mortgage.....	83,000	88,000	93,352	97,956	97,958
Totals.....	3,015,374	3,184,792	3,410,889	3,571,827	3,726,745
Investments by Other Countries—					
Government Securities (Dominion, Provincial and Municipal).....	11,342	11,201	11,409	11,409	11,500
Public Utilities—					
Railways.....	24,959	27,459	28,924	29,017	33,267
Other Public Utilities (Traction, Light, Heat, Power, Telephone, etc.).....	14,198	13,391	12,944	13,317	14,610
Industries—					
Pulp, Paper and Lumber.....	17,573	7,482	6,679	6,874	6,845
Mining.....	4,936	5,136	6,640	7,799	8,800
Metal Industries.....	10,316	10,283	10,343	10,330	11,394
All other Industries.....	9,564	9,526	13,516	14,639	14,920
Trading Establishments.....	4,585	4,536	4,496	4,909	5,000
Finance and Insurance.....	12,940	12,890	14,779	13,462	13,935
Land and Mortgage.....	50,000	50,000	51,000	50,917	50,917
Totals.....	160,413	151,904	160,730	162,613	171,188

40.—Estimated Total Investments of Canadian Capital in British and Foreign Countries, as at Jan. 1, 1928-30.

(000's omitted.)

Item.	Jan. 1, 1928.				Jan. 1, 1929.			
	Great Britain.	United States.	Other Countries.	Total.	Great Britain.	United States.	Other Countries.	Total.
	\$	\$	\$	\$	\$	\$	\$	\$
Canadian Government credits and balances abroad.	7,779	7,032	32,433	47,244	2,869	23,842	31,099	57,810
Balances of chartered banks abroad.....	47,689	143,069	47,689	238,447	37,519	112,558	37,520	187,597
Foreign securities held by banks...	46,881	33,356	15,455	95,682	24,662	13,775	28,926	67,363
Investments of insurance companies abroad.....	18,016	175,871	92,082	285,969	18,483 ¹	180,436 ¹	94,472 ¹	293,391
Direct industrial investments.....	1,700	168,213	127,905	297,818	1,000	144,490	183,642	329,132
Miscellaneous.....	9,850	347,085	256,979	613,914	9,850	512,085	281,979	803,914
Totals.....	131,915	874,626	572,543	1,579,074	94,383¹	987,165¹	657,638¹	1,739,207¹

Item.	Jan. 1, 1930.			
	Great Britain.	United States.	Other Countries.	Total.
	\$	\$	\$	\$
Canadian Government credits and balances abroad...	419	15,478	30,834	46,731
Balances of chartered banks abroad.....	19,599	58,799	19,599	97,997
Foreign securities held by banks.....	25,927	15,466	26,711	68,104
Investments of insurance companies abroad.....	22,079	215,537	112,851	350,467
Direct industrial investments.....	1,000	154,490	198,642	354,132
Miscellaneous.....	11,850	562,085	289,979	863,914
Totals.....	80,874	1,021,855	678,616	1,781,345

¹Revised figures.

CHAPTER XXII.—CURRENCY AND BANKING; LOAN AND TRUST COMPANIES.

Section 1.—Canada's Monetary System.

Historical.—Early trade in Canada was carried on by barter, which at times resulted (*e.g.*, in transactions between Indians and fur traders) in the adoption of beads, blankets, etc., as recognized media of exchange. Later, during the French period in Canada, while barter still formed perhaps the most important means of exchange between individuals and merchants, a more or less satisfactory currency system developed. Beaver and other furs, tobacco and wheat were at times used as substitutes for currency, the last named being at one time a legal tender. A makeshift currency system was also developed during the French *régime* when playing cards, stamped with a value and redeemable yearly on the receipt of bills of exchange on Paris, came into circulation. Other paper money was also issued, and the total amount outstanding at the time of the cession was estimated at 80,000,000 livres, which was nearly all lost to its holders.

The British Government next sought to establish a uniform standard of colonial currency, but since at this time French coinage again began to come into circulation and the Spanish dollar also rivalled the English shilling as the most common medium of exchange, this was not universally possible. English sovereigns were overrated in terms of dollars in an endeavour to encourage their circulation. A rate of 5s. to the dollar was set in Halifax and was in use in government accounting systems, while in Montreal York currency (the rates prevalent in New York), giving the dollar an exchange value of 7s. 6d. or 8s., was in common use.

Canadians again became more or less familiar with the characteristics of paper money as a result of the experiences of the various neighbouring Northern States during the first half of the nineteenth century. During the war of 1812 this familiarity was increased by the establishment of an army bill office, issuing bills of various denominations, redeemable on presentation. The growing volume of trade between Canada and the United States also resulted in a tendency toward a decimal coinage, and in 1853 a measure was passed providing for the adoption of a decimal currency, with a dollar equivalent to the United States dollar; the British sovereign was made legal tender at \$4.86 $\frac{2}{3}$. An Act of 1857 requiring all government accounts to be kept in dollars and cents came into force on Jan. 1, 1858; the formal adoption of decimal currency in the Province of Canada dates from that time.

By the Uniform Currency Act of 1871 (34 Vict., c. 4), the decimal currency was extended throughout the Dominion, the British sovereign was made legal tender for \$4.86 $\frac{2}{3}$ and the United States eagle legal tender for \$10, while authority was given to coin a Canadian \$5 gold piece. No Canadian gold coinage was issued, however, prior to the establishment of the Canadian branch of the Royal Mint in 1908, the first coins then struck being sovereigns similar to those of Great Britain, but with a small "C" identifying them as having been coined in Canada. In May, 1912, the first Canadian \$10 and \$5 gold pieces were struck, but the Canadian gold coinage has so far been limited in amount, since Canadians have generally preferred Dominion notes to gold for use within the country and, when gold is needed for export, bullion or British and United States gold coin serve the purpose equally well.

The Royal Canadian Mint.—The Ottawa Mint, established as a branch of the Royal Mint under the (Imperial) Coinage Act, 1870, and opened on Jan. 2, 1908, was by 21-22 Geo. V, c. 48, constituted a branch of the Department of Finance, and by the Proclamation of Nov. 14, 1931, issued under Section 3 of that Act, it has since Dec. 1, 1931, operated as the Royal Canadian Mint. At first the British North American provinces, and later the Dominion of Canada, obtained their coins from the Royal Mint in London or from The Mint, Birmingham, Ltd., and in its earlier years the operations of the Mint in Canada were confined to the production of gold, silver and bronze coins for domestic circulation, of British sovereigns, and of small coinages struck under contract for Newfoundland and Jamaica. Previous to 1914 small quantities of gold bullion were refined, but during the war the Mint came to the assistance of the British Government by establishing a refinery in which nearly twenty million ounces of South African gold were treated on account of the Bank of England, and the subsequent great development of the gold-mining industry in Canada has resulted in gold-refining becoming one of the principal activities of the Mint. Gold coins have never been a popular medium of exchange in Canada and none have been struck since 1919, most of the fine gold produced from the rough shipments from the mines being delivered to the Department of Finance in the form of bars worth between \$10,000 and \$11,000 each, the rest being sold in a convenient form to manufacturers. The fine silver extracted from the rough gold, when not required for coinage, is sold on the New York market or disposed of to local manufacturing firms.

The domestic currency of Canada, as at present authorized by the Currency Act, consists of \$20, \$10, \$5 and \$2½ gold pieces, 900 millesimal fineness (only \$10 and \$5 pieces have been issued); of \$1, 50 cent, 25 cent and 10 cent silver pieces, 800 millesimal fineness; of 5 cent pieces of pure nickel (from metal produced in Canada); and of one cent pieces in bronze. The silver 5 cent piece is still legal tender, but its coinage was discontinued in 1921; the silver dollar has never been coined.

Gold.—Gold is used only to an insignificant extent as a circulating medium in Canada, its monetary use being practically confined to reserves, but 5-dollar and 10-dollar gold pieces weighing respectively 129 and 258 grains, 9-10ths pure gold by weight, have been coined, the Canadian gold dollar thus containing 23·22 grains of pure gold. These coins were first issued in 1912, authority to issue them having been conferred in 1910. By the Currency Act, 1910 (9-10 Edw. VII, c. 14), British sovereigns, which are legal tender for \$4.86½, and other gold coins, and the 5-dollar 10-dollar and 20-dollar gold coins of the United States, which contain the same weight of gold as Canadian gold coins of these denominations, are also legal tender. These, however, are almost entirely divided between the Dominion Government and the banks as reserves, and the chief circulating medium of the country is provided by paper and token currency.

Table 1, compiled by the Master of the Royal Canadian Mint, shows the value of the gold bullion received for treatment at the Ottawa Mint since its foundation together with the gold coin and bullion issued. A statement of the gold, silver, nickel and bronze coinages issued to the separate Provinces and to the Dominion of Canada since 1858 is published as Table 2. Table 3, compiled by the Dominion Comptroller of Currency, gives the form in which the gold has been held by the Government in recent years.

1.—Value of Gold Bullion Received for Treatment and Value of Gold Coin and Bullion Issued from the Ottawa Mint, 1908-31.

Year.	Gold Received.	Gold Coin Issued.		Bullion Issued.	Total Issued.
		Sovereigns.	Canadian.		
	\$	\$	\$	\$	\$
1908 to 1916.....	10,463,623.94	1,585,058.69	4,868,420	2,916,552.87	9,370,031.56
1917.....	834,507.05	910.07	—	1,836,741.72	1,837,651.79
1918.....	4,942,051.11	636,404.24	—	3,461,337.80	4,097,742.04
1919.....	10,757,173.72	832,404.40	—	10,162,325.22	10,994,729.62
1920.....	11,530,413.82	19.47	—	11,729,633.29	11,729,652.76
1921.....	16,915,038.45	661.86	—	16,598,784.71	16,599,446.57
1922.....	22,474,548.41	—	—	22,452,310.79	22,452,310.79
1923.....	12,687,098.94	—	—	13,219,784.95	13,219,784.95
1924.....	2,298,565.73	—	—	2,224,224.68	2,224,224.68
1925.....	2,492,403.07	—	—	2,529,713.69	2,529,713.69
1926.....	28,434,159.27	—	—	27,858,765.72	27,858,765.72
1927.....	29,936,535.82	—	—	30,013,576.98	30,013,576.98
1928.....	27,392,510.27	—	—	26,980,873.75	26,980,873.75
1929.....	9,061,523.51	—	—	9,682,363.42	9,682,363.42
1930.....	17,820,668.21	—	—	14,934,758.75	14,934,758.75
1931.....	35,581,117.00	—	—	35,867,937.27	35,867,937.27
Totals.....	596,520,185.10¹	3,055,453.73	4,868,420	585,045,269.37	593,569,148.10²

¹Includes \$352,898,246.78 of Bank of England gold received between 1915 and 1919.

²Includes \$353,175,583.76 of Bank of England bullion issued between 1915 and 1919.

2.—Statement of Coinage (in Dollars and Cents Denominations) Issued to the Dominion of Canada, 1858-1931.

Year.	Gold.	Silver.	Nickel.	Bronze.	Total.
	\$	\$	\$	\$	\$
Struck at Mints in England ¹ —					
1858 { New Brunswick, 1861-2-4.....	—	95,000	—	20,000	115,000
to { Nova Scotia, 1861-2-4.....	—	—	—	30,000	30,000
1907 { Prince Edward Island, 1871.....	—	—	—	10,000	10,000
{ Canada, 1858-1907.....	—	12,459,996	—	804,429	13,264,425
Totals.....	—	12,554,996	—	864,429	13,419,425
Struck at The Royal Mint, Ottawa—					
1908 to 1916.....	4,868,420	8,595,327	—	459,204	13,922,951
1917.....	—	1,862,200	—	116,900	1,979,100
1918.....	—	2,402,000	—	131,817	2,533,817
1919.....	—	3,258,044	—	115,100	3,373,144
1920.....	—	1,356,000	—	209,085	1,565,085
1921.....	—	128,000	—	60,700	188,700
1922.....	—	24,000	69,000	12,400	105,400
1923.....	—	28,000	127,000	19,300	174,300
1924.....	—	—	74,500	11,900	86,400
1925.....	—	14,000	126,000	22,100	162,100
1926.....	—	50,000	168,500	28,200	246,700
1927.....	—	574,000	249,000	37,500	860,500
1928.....	—	867,000	250,000	92,100	1,209,100
1929.....	—	1,081,000	267,000	123,300	1,471,300
1930.....	—	326,000	164,500	13,400	503,900
1931.....	—	475,400	281,000	51,400	807,800
Totals.....	4,868,420	33,595,967	1,776,500	2,363,721	42,609,722

¹Struck at The Royal Mint in London, or at The Mint, Birmingham, Ltd.

3.—Composition of Canadian Gold Reserves on Dec. 31, 1905-31.

Year.	British Coin.	U.S. Coin.	Canadian Coin.	Bullion.	Total.
	\$	\$	\$	\$	\$
1905.....	3,990,717	29,494,298	—	—	33,485,015
1906.....	7,375,857	31,040,149	—	—	38,416,006
1907.....	5,366,478	33,529,889	—	—	38,896,367
1908.....	6,261,715	54,909,076	—	—	61,170,791
1909.....	6,537,227	62,988,474	—	—	69,525,701
1910.....	6,304,524	68,261,279	—	222,934	74,788,737
1911.....	6,900,095	93,507,764	—	222,934	100,630,793
1912.....	4,554,691	98,648,736	650,185	222,934	104,076,546
1913.....	6,391,375	106,642,969	2,118,210	222,934	115,375,498
1914.....	4,482,524	86,382,620	3,440,150	320,345	94,625,639
1915.....	29,606,990	86,516,595	3,436,095	775,201	120,334,881
1916.....	29,333,111	86,034,920	3,426,760	803,002	119,597,693
1917.....	27,476,790	77,899,494	3,413,465	11,352,856	120,142,605
1918.....	27,362,255	75,785,665	3,411,465	14,701,439	121,260,834
1919.....	27,661,192	60,988,110	3,408,310	27,154,222	119,211,844
1920.....	26,728,016	35,896,485	3,387,125	35,090,344	101,101,970
1921.....	26,729,501	35,896,305	3,385,690	18,558,557	84,570,053
1922.....	26,730,576	67,941,550	3,340,650	34,572,504	132,585,280
1923.....	27,212,790	41,090,395	3,336,490	46,026,852	117,666,527
1924.....	26,342,019	77,173,105	3,327,125	34,905,387	141,747,636
1925.....	29,894,943	67,135,310	3,315,730	37,512,195	137,858,178
1926.....	32,133,941	72,423,610	3,221,930	23,415,643	131,195,124
1927.....	28,948,085	51,179,390	3,089,010	47,516,079	130,732,504
1928.....	34,163,297	31,018,970	2,931,835	25,202,771	93,316,873
1929.....	32,164,284	10,995,220	2,801,520	17,034,256	62,995,280
1930.....	30,634,058	28,748,085	2,733,150	34,096,809	96,212,102
1931.....	17,736,296	4,270,780	2,732,880	42,220,192	66,960,148

Token Currency.—Canadian silver dollars weighing 360 grains, 37-40ths fine, are provided for by the Currency Act of 1910, but no silver dollars have ever been struck by the Mint. Fifty, twenty-five, ten and five-cent pieces of weight proportionate to their respective fractions of the dollar, and of the same fineness are in circulation, but, by c. 9 of the Statutes of 1920, the standard of fineness was reduced to 8-10ths. In 1921 the coinage of a nickel five-cent piece weighing 70 grains was authorized, and a number of these coins have appeared.¹ Silver coins are legal tender only up to ten dollars, nickel coins to five dollars, and bronze coins to twenty-five cents. Table 4 shows the *net* issue of silver and bronze coins (that is, the value issued less the value withdrawn), by years from 1901.

¹ Nickel coinage issued to the Dominion of Canada from the Mint to Dec. 31, 1931, had a face value of \$1,776,500. See Table 2.

4.—Circulation in Canada of Silver and Bronze Coin, Dec. 31, 1901-31.

NOTE.—Figures supplied by the Mint.

Year.	Net Amounts of Silver Coin Issued. ²		Amounts per head.		Net Amounts of Bronze Coin Issued. ²		Amounts per head.	
	A. During the Year.	B. Since 1858.	Col. A.	Col. B.	C. During the Year.	D. Since 1858.	Col. C.	Col. D.
	\$	\$	cts.	\$	\$	\$	cts.	cts.
1901.....	420,000	8,279,924	7-8	1-53	41,000	676,429	0-8	11-
1902.....	774,000	9,053,924	14-0	1-64	30,000	706,429	0-5	12-
1903.....	633,850	9,687,774	11-1	1-70	40,000	746,429	0-7	13-
1904.....	350,000	10,037,774	5-9	1-71	25,000	771,429	0-4	12-
1905.....	450,000	10,487,774	7-4	1-72	20,000	791,429	0-3	13-
1906.....	807,461	11,295,235	12-8	1-79	41,000	832,429	0-6	13-
1907.....	1,194,000	12,489,235	17-9	1-88	32,000	864,429	0-5	13-
1908.....	38,541	12,527,776	0-6	1-80	21,604	886,033	0-3	12-
1909.....	648,700	13,176,476	9-0	1-83	39,300	925,333	0-5	12-
1910.....	1,151,186	14,327,662	15-4	1-91	42,020	967,353	0-6	12-
1911.....	1,343,001	15,670,663	18-6	2-18	54,275	1,021,628	0-8	14-
1912.....	1,303,237	16,973,900	17-7	2-30	49,977	1,071,605	0-7	14-
1913.....	927,131	17,901,031	12-3	2-38	55,572	1,127,177	0-7	15-
1914.....	626,198	18,527,229	8-1	2-41	35,057	1,162,234	0-4	15-
1915.....	61,344	18,588,573	0-8	2-36	50,354	1,212,588	0-6	15-

²These figures of *net* amount of coins issued show the value issued less the value withdrawn and to that extent do not correspond with the figures shown in Table 2.

4.—Circulation in Canada of Silver and Bronze Coin, Dec. 31, 1901-31—concluded.

Year.	Net Amounts of Silver Coin Issued. ¹		Amounts per head.		Net Amounts of Bronze Coin Issued. ¹		Amounts per head.	
	A. During the Year.	B. Since 1858.	Col. A.	Col. B.	C. During the year.	D. Since 1858.	Col. C.	Col. D.
	\$	\$	cts.	\$	\$	\$	cts.	cts.
1916.....	1,179,516	19,768,089	14.7	2.46	110,646	1,323,234	1.4	16.5
1917.....	1,790,941	21,559,030	21.9	2.64	116,800	1,440,034	1.4	17.6
1918.....	2,329,091	23,888,121	28.0	2.87	131,777	1,571,811	1.6	18.9
1919.....	3,196,027	27,084,148	37.7	3.19	115,011	1,686,822	1.4	19.9
1920.....	1,300,702	28,384,850	15.1	3.29	208,961	1,895,783	2.4	22.0
1921.....	40,191	28,344,659	0.5	3.22	60,543	1,956,326	0.7	22.0
1922.....	—	28,151,444 ²	—	3.16 ³	11,742	1,968,068	0.1 ³	22.1 ³
1923.....	—	28,052,347 ²	—	3.11 ³	19,118	1,987,186	0.2 ³	22.1 ³
1924.....	—	27,863,502 ²	—	3.05 ³	11,430	1,998,616	0.1 ³	21.9 ³
1925.....	—	27,713,019 ²	—	2.98 ³	21,854	2,020,470	0.2 ³	21.7 ³
1926.....	—	27,433,463 ²	—	2.90 ³	23,363	2,043,833	0.2 ³	21.6 ³
1927.....	—	27,104,534 ²	—	2.81 ³	36,363	2,080,196	0.4 ³	21.6 ³
1928.....	633,429	27,737,963	6.4 ³	2.82 ³	91,461	2,171,657	0.9 ³	22.1 ³
1929.....	900,232	28,638,195	9.0 ³	2.86 ³	119,132	2,290,789	1.2 ³	22.8 ³
1930.....	—	28,562,330 ²	—	2.80 ³	6,616	2,297,405	0.1 ³	22.5 ³
1931.....	144,018	28,706,348	1.4	2.77	48,649	2,346,054	0.5	22.6

¹The figures for *net* amount of coins issued show the value issued less the value withdrawn and to this extent do not correspond with the figures shown in Table 2.

²The decreases shown in recent years are due to the withdrawal of worn and mutilated silver coins from circulation.

³Per capita figures for the years 1922-30 inclusive are worked out on the basis of revised populations (see p. 110).

Dominion Notes.—An important part of the Canadian monetary system is the paper currency of the Dominion Government. Under the Dominion Notes Act, 1914 (5 Geo. V, c. 4), the Dominion Government is authorized to issue notes up to and including \$50,000,000 against a reserve in gold equal to one-quarter of that amount. By c. 4, Acts of 1915, "An Act respecting the Issue of Dominion Notes", the Dominion Government is authorized to issue notes up to \$26,000,000 without any reserve of gold, \$16,000,000 of the notes to be against certain specified Canadian railway securities guaranteed by the Dominion Government.¹ Notes may be issued to any additional amount in excess of \$76,000,000, but (except as provided by the Finance Act, 1914—see footnote below) an amount of gold equal to the excess must be held. Thus Dominion notes normally approximate to gold certificates. Under the Act, the Government issues notes of the denominations of 25 cents, \$1, \$2, \$4, \$5, \$50, \$100, \$500 and \$1,000. In addition, "special" notes of the denominations of \$500, \$1,000, \$5,000 and \$50,000 (first issue of the last-mentioned September, 1918) are issued for use between banks only, the purpose being as a safeguard against theft. Table 5 gives the main statistics of Dominion notes outstanding and the reserves on which they have been based since 1890, Table 6 statistics of gold held by the Minister of Finance from 1919 to 1931, while Table 7 shows the use of notes of different denominations during the past six years.

¹The following is an outline of Canadian legislation respecting the issue of notes. After Confederation, by an Act of 1868 (31 Vict., c. 46), authority was given for the issue of notes to the extent of eight million dollars. The reserve was fixed at 20 p.c. up to a circulation of five millions; beyond that, 25 p.c. to be held as reserve. The law of 1870 (33 Vict., c. 10) authorized a limit of nine million dollars. The reserve was fixed at 20 p.c., but the nine millions were only to be issued when the specie amounted to two millions. Dollar for dollar was to be held beyond nine millions. In 1872 (35 Vict., c. 7) the reserve for the excess over nine millions was fixed at 35 p.c. in specie. This was amended in 1875 (38 Vict., c. 5) by requiring dollar for dollar beyond twelve millions; for the reserve between nine and twelve millions 50 p.c. in specie was to be held. In 1876 the law respecting Dominion notes was extended to the provinces of Prince Edward Island, British Columbia and Manitoba. In 1880 (43 Vict., c. 13) the basis of the present standard was established. A reserve of 25 p.c. in gold and guaranteed debentures was required, of which 15 p.c. at least was to be in gold. The limit was raised to twenty million dollars. In 1894 (57-58 Vict., c. 21) the limit was raised to twenty-five millions, but this was found unworkable and was repealed in 1895 (58-59 Vict., c. 16), and authority was given to issue notes to any amount over twenty millions, on holding dollar for dollar beyond that sum. In 1903 (3 Edw. VII, c. 43) the Minister of Finance was required to hold gold and guaranteed debentures of not less than 25 p.c. on Dominion notes issued and outstanding up to thirty million dollars; beyond thirty millions he was required to hold gold equal to the excess. In 1914 (5 Geo. V, c. 4, assented to Aug. 22, 1914) this amount was raised to fifty millions and in 1915 (5 Geo. V, c. 4, assented to April 8, 1915) to seventy-six millions, under the conditions stated in the text. The Finance Act, 1914 (5 Geo. V, c. 3), makes provision, in case of war, panic, etc., for the issue of Dominion notes against approved securities; this emergency arrangement was made a permanent feature by c. 48 of the Statutes of 1923.

5.—Dominion Notes Outstanding and Reserves as at June 30, 1890-1931.

Year.	Notes Outstanding. ¹					Reserves of Specie.	Notes Outstanding Uncovered by Specie. ⁵	Percentage of Specie Reserves to Notes Outstanding.
	Notes, \$1,2,4 and 5, and fractionals. ²	Large Notes, \$50, 100, 500, 1,000, 5,000. ³	Totals.					
			Amount.	Per capita.	Index No. ⁴			
	\$	\$	\$	\$		\$	\$	p.c.
1890.....	6,665,942	8,691,950	15,357,892	3.20	65.3	3,285,515	10,125,711	21.4
1891.....	6,768,666	9,407,650	16,176,316	3.34	68.2	3,887,027	10,452,623	24.2
1892.....	6,898,348	10,384,350	17,282,698	3.53	72.0	5,061,577	10,414,455	29.2
1893.....	7,136,743	11,311,750	18,448,493	3.73	76.1	6,449,348	10,052,479	36.5
1894.....	6,967,818	13,093,900	20,061,718	4.09	83.5	8,292,405	9,822,647	41.1
1895.....	7,059,331	12,460,900	19,520,231	3.87	79.0	7,761,084	9,812,481	40.0
1896.....	7,377,096	12,995,100	20,372,196	4.00	81.6	8,758,252	9,667,295	43.3
1897.....	7,519,345	14,798,750	22,318,095	4.34	88.6	10,723,649	9,650,780	48.3
1898.....	8,157,243	14,020,950	22,178,193	4.26	86.9	10,813,739	9,417,788	49.4
1899.....	8,770,165	15,466,300	24,236,465	4.60	93.9	13,061,775	9,228,024	54.5
1900.....	9,640,473	16,454,450	26,094,923	4.90	100.0	12,476,044	11,672,213	48.3
1901.....	10,161,809	17,736,700	27,898,509	5.19	105.9	14,578,117	11,374,769	52.2
1902.....	11,029,985	21,750,400	32,780,385	5.92	120.8	18,901,639	11,932,080	58.3
1903.....	12,173,248	26,832,950	39,006,198	6.87	140.2	25,930,594	11,128,938	66.6
1904.....	12,581,833	28,992,950	41,574,783	7.13	145.5	23,422,625	16,205,492	61.1
1905.....	13,045,820	34,288,400	47,334,220	7.89	161.0	28,890,837	16,062,098	56.5
1906.....	14,633,576	35,307,850	49,941,426	8.09	165.1	29,013,931	18,980,829	58.3
1907.....	15,939,131	42,377,400	58,316,531	9.25	188.7	34,989,270	21,380,595	60.3
1908.....	15,279,675	47,778,450	63,058,125	9.71	198.2	39,141,184	21,950,275	62.3
1909.....	15,860,149	63,145,150	79,005,299	11.80	240.8	55,363,266	21,695,367	70.3
1910.....	17,871,477	71,414,250	89,285,727	12.90	263.3	66,409,121	20,929,940	74.3
1911.....	19,840,695	79,468,250	99,308,945	13.78	281.2	78,005,231	21,303,714	78.3
1912.....	22,982,588	88,949,650	111,932,238	15.19	310.0	92,442,098	19,490,140	82.3
1913.....	28,845,737	87,517,800	116,363,537	15.45	315.3	94,943,499	21,420,038	81.3
1914.....	24,586,448	89,595,650	114,182,098	14.84	302.8	92,663,575	21,518,523	81.3
1915.....	25,183,685	126,937,050	152,120,735	19.34	394.7	89,573,041	62,547,693	59.5
1916.....	27,283,425	148,213,750	175,497,175	21.84	445.7	114,071,032	61,426,143	66.6
1917.....	29,498,409	149,069,600	178,568,009	21.82	445.3	119,110,113	59,457,896	67.3
1918.....	32,623,514	248,716,000	281,339,514	33.78	689.4	114,951,618	166,387,896	41.1
1919.....	35,084,194	265,665,650	300,749,844	35.47	723.9	118,268,407	182,481,437	39.3
1920.....	37,203,890	254,812,400	292,016,290	33.83	690.4	95,538,190	196,478,100	33.3
1921.....	34,403,934	234,365,250	268,769,184	30.58	624.1	83,854,487	184,914,697	33.3
1922.....	31,404,161	201,344,250	232,748,411	26.10 ⁶	532.7 ⁶	85,495,068	147,253,343	37.3
1923.....	33,276,533	200,869,900	234,146,433	25.99 ⁶	530.4 ⁶	121,025,725	113,120,708	52.3
1924.....	34,816,442	175,492,150	210,308,592	23.00 ⁶	469.4 ⁶	96,732,954	113,575,638	44.3
1925.....	32,294,827	176,096,650	208,391,477	22.42 ⁶	457.6 ⁶	116,263,994	92,127,483	50.3
1926.....	32,512,285	143,200,630	175,712,915	18.59 ⁶	379.4 ⁶	94,999,481	80,713,434	55.3
1927.....	33,845,891	143,160,024	177,005,915	18.37 ⁶	374.9 ⁶	105,700,181	71,305,734	60.3
1928.....	35,051,708	165,703,650	200,755,358	20.42 ⁶	416.7 ⁶	80,756,302	119,999,056	44.3
1929.....	37,159,177	172,803,650	209,962,827	22.94 ⁶	427.3 ⁶	58,931,581	151,031,246	22.3
1930.....	37,029,484	137,189,150	174,218,634	17.07 ⁶	348.4 ⁶	65,719,661	108,498,973	33.3
1931.....	35,288,353	110,028,650	145,317,003	14.01	285.9	70,534,481	74,782,522	44.3

¹Includes Dominion notes in the central gold reserves as security for bank note circulation.²Includes provincial notes amounting to \$32,857 in 1890 and reduced gradually to \$27,601 on June 30, 1931.³Includes issue of \$50,000 notes, 1919-31.⁴Per capita circulation in 1900 is taken as 100.⁵The circulation uncovered by specie reserve was to a considerable extent covered, between 1890 and 1910, by the holdings of guaranteed debentures amounting to \$1,946,666. Since 1914 a part of the issue of Dominion notes outstanding has been covered by the holding of securities approved under the Finance Act, 1914, and the Finance Act, 1923. On June 30, 1931, the Dominion notes outstanding against securities approved under the Finance Act, 1923, amounted to \$13,500,000.⁶Per capita figures for the years 1922-30 inclusive are worked out on the basis of revised population (see p. 110).

6.—Gold Held by the Minister of Finance, calendar years 1919-31.¹

Year.	Gold Reserve Held on Savings Bank Deposits. ²	Gold Held for Redemption of Dominion Notes.	Total Gold Held by Minister of Finance.
	\$	\$	\$
1919.....	4,909,675	118,489,692	123,399,367
1920.....	4,067,897	98,751,773	102,819,670
1921.....	3,666,009	84,568,064	88,234,073
1922.....	3,293,287	89,939,108	93,232,395
1923.....	3,154,358	120,651,627	123,805,985
1924.....	3,308,575	107,257,428	110,566,003
1925.....	3,241,490	119,744,819	122,986,309
1926.....	3,162,930	109,369,550	112,532,480
1927.....	3,083,440	107,417,631	110,501,071
1928.....	2,994,001	89,218,454	92,212,455
1929.....	2,709,169	59,345,233	62,054,402
1930.....	2,483,959	79,000,297	81,484,256
1931.....	2,405,030	74,209,510	76,614,540

¹Yearly averages. ²In the Savings Bank Act (c. 15, R.S.C., 1927) it is provided that the Minister of Finance shall hold 10 p.c. reserve against savings bank deposits.

7.—Denominations of Dominion Notes in Circulation, Mar. 31, 1926-31.

Denomination.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$
1.....	16,943,454	17,428,021	18,100,000	19,277,085	18,943,815	18,193,832
2.....	12,231,463	12,609,981	13,039,460	13,824,977	13,776,806	13,283,168
5.....	33,547	33,071	32,635	32,223	31,887	31,455
10.....	428,672	700,147	294,072	277,612	1,109,693	1,125,298
50.....	650	650	650	650	650	650
100.....	1,790,500	1,736,000	1,791,500	1,832,000	1,907,500	2,018,000
1,000.....	3,344,000	4,103,000	4,244,000	4,289,000	4,569,000	4,496,000
1,000 special.....	648,000	433,000	281,000	427,000	479,000	609,000
5,000 special.....	16,600,000	9,950,000	7,810,000	7,570,000	6,700,000	8,255,000
50,000 special.....	129,200,000	123,800,000	141,650,000	155,550,000	125,400,000	91,700,000
Fractional currency.....	1,335,494	1,346,145	1,360,549	1,392,463	1,380,648	1,326,251
Provincial notes.....	27,624	27,624	27,624	27,624	27,619	27,603
Totals.....	182,583,404	172,167,639	188,631,490	204,500,633	174,326,618	141,066,257

Bank Notes.—Bank notes form the chief circulating medium in use in Canada. Under the Canadian Bank Act, the banks are authorized to issue notes of the denominations of \$5 and multiples thereof to the amount of their paid-up capital. These notes are not in normal times legal tender.

In addition, during the period of the movement of the crops (Sept. 1 to Feb. 28-29), the banks may issue "excess" circulation to the amount of 15 p.c. of their combined capital and "rest" or reserve funds. In the event of war or panic the Government may permit the "excess" to run all the year. The banks pay interest on this excess at 5 p.c. If a bank desires to extend its circulation, it may also do so by depositing dollar for dollar in gold or Dominion notes in the central gold reserves.

In case of insolvency the notes of a bank are a first lien upon its assets. Notes are further secured, in case of insolvency, by the bank circulation redemption fund, to which all banks contribute on the basis of 5 p.c. of their average circulation not covered by gold or Dominion notes deposited in the central gold reserves established in 1913. The sum thus secured is available for the redemption of the notes of failed banks.

The figures of bank note circulation are given in Table 8. Table 9 brings together the statistics of the amount of circulating media in the hands of the general public, yearly averages being used where possible. "In the hands of the general public" here includes currency in the tills of the banks in the process of ordinary exchange as well as that outstanding among the general public, but does not include Dominion notes of denominations larger than five dollars which are used almost entirely for inter-bank transactions and reserves. In both Tables 8 and 9 "bank notes in circulation" include notes of other banks held by the banks, averaging about \$13,000,000 in 1931. In the case of the silver, nickel and bronze coinage in Table 9, the figures are the total amounts issued by the mint since 1858 less amounts withdrawn from circulation and therefore include amounts held by the banks as well as coins lost by the public, which over such a period would probably amount to a considerable sum.

8.—Statistics of Bank Note Circulation, calendar years 1900-31.

NOTE.—The statistics in this table are averages computed from monthly returns in each year. Figures for 1892-99 will be found at p. 861 of the 1927-28 Year Book.

Year.	Paid up Capital.	"Rest" Fund.	Bank Circulation Redemption Fund, ¹ (Deposited with Minister of Finance.)	Bank Notes in Circulation.		
				Amount.	Per capita.	Index No. per capita.
	\$	\$	\$	\$	\$	
1900.....	65,154,594	32,372,394	2,221,128	46,574,780	8.75	10.0
1901.....	67,035,615	36,249,145	2,487,541	50,601,205	9.36	10.1
1902.....	69,869,670	40,212,943	2,832,401	55,412,598	10.02	10.2
1903.....	76,453,125	47,761,536	2,971,260	60,244,072	10.62	12.1
1904.....	79,234,191	52,082,335	3,237,891	61,769,888	10.60	12.2
1905.....	82,655,828	56,474,124	3,448,463	64,025,643	10.68	12.3
1906.....	91,035,604	64,002,266	3,923,531	70,638,870	11.44	13.1
1907.....	95,953,732	69,806,892	4,304,524	75,784,482	12.02	13.2
1908.....	96,147,526	72,041,265	4,249,367	71,401,697	11.00	12.1
1909.....	97,329,333	75,887,695	4,317,006	73,943,119	11.04	12.2
1910.....	98,787,929	79,970,346	4,844,475	82,120,303	11.87	13.1
1911.....	103,009,256	88,892,256	5,353,838	89,982,223	12.57	14.1
1912.....	112,730,943	102,090,476	6,211,881	100,146,541	13.60	15.1
1913.....	116,297,729	109,129,393	6,536,341	105,265,336	13.98	16.1
1914.....	114,759,807	113,130,626	6,693,684	104,600,185	13.60	15.1
1915.....	113,982,741	113,020,310	6,756,648	105,137,092	13.37	15.1
1916.....	113,175,353	112,989,541	6,811,213	126,691,913	15.77	18.1
1917.....	111,637,755	113,560,997	6,324,442	161,029,606	19.69	22.1
1918.....	110,618,504	114,041,500	5,817,646	198,645,254	23.85	27.1
1919.....	115,004,960	121,160,774	6,054,419	218,919,261	25.82	29.1
1920.....	123,617,120	128,756,690	6,122,715	228,800,379	26.51	30.1
1921.....	129,096,339	134,104,030	6,417,287	194,621,710	22.15	25.1
1922.....	125,456,485	129,627,270	6,493,593	166,466,109	18.66 ²	21.1
1923.....	124,373,293	126,441,667	6,662,665	170,420,792	18.92 ²	21.6
1924.....	122,409,504	123,841,666	6,347,378	166,136,765	18.17 ²	20.7
1925.....	118,831,327	123,295,866	6,026,617	165,235,168	17.78 ²	20.3
1926.....	116,638,254	125,441,700	5,790,572	168,885,995	17.87 ²	20.4
1927.....	121,666,724	130,320,897	5,861,646	172,100,763	17.86 ²	20.4
1928.....	122,839,879	134,087,485	6,027,466	176,716,979	17.97 ²	20.5
1929.....	137,269,085	150,636,682	6,246,861	178,291,030	17.78 ²	20.3
1930.....	144,560,874	160,639,246	6,590,934	159,341,085	15.61 ²	17.1
1931.....	144,674,853	162,075,000	6,825,601	141,969,350	13.68	14.1

¹This fund is in cash, i.e., gold or Dominion notes.

²Per capita figures for the years 1922-30 inclusive are worked out on the basis of revised population (see p. 110).

9.—Circulating Media in the Hands of the General Public, calendar years, 1900-31
—concluded on p. 764.

Year.	Silver. ⁴		Nickel. ⁴		Bronze. ⁴		Bank Notes.	
	Amount.	Per capita.	Amount.	Per capita.	Amount.	Per capita.	Amount. ¹	Per capita.
	\$	\$	\$	\$	\$	\$	\$	\$
1900.....	7,911,998	1.49	—	—	635,429	.11	46,574,780	8.75
1901.....	8,279,924	1.53	—	—	676,429	.12	50,601,205	9.36
1902.....	9,053,924	1.64	—	—	706,429	.13	55,412,598	10.02
1903.....	9,687,774	1.70	—	—	746,429	.13	60,244,072	10.62
1904.....	10,037,774	1.71	—	—	771,429	.13	61,769,888	10.60
1905.....	10,487,774	1.72	—	—	791,429	.13	64,025,643	10.68
1906.....	11,295,235	1.79	—	—	832,429	.13	70,638,870	11.45
1907.....	12,489,235	1.88	—	—	864,429	.13	75,784,482	12.03
1908.....	12,527,776	1.80	—	—	886,033	.13	71,401,697	11.00
1909.....	13,176,476	1.83	—	—	925,333	.13	73,943,119	11.04
1910.....	14,372,662	1.91	—	—	967,353	.13	82,120,303	11.87
1911.....	15,670,663	2.18	—	—	1,021,628	.14	89,982,223	12.49
1912.....	16,973,900	2.30	—	—	1,071,605	.15	100,146,541	13.60
1913.....	17,901,031	2.38	—	—	1,127,177	.15	105,265,336	13.98
1914.....	18,527,229	2.41	—	—	1,162,234	.15	104,600,185	13.60
1915.....	18,588,573	2.36	—	—	1,212,588	.15	105,137,092	13.37
1916.....	19,768,089	2.46	—	—	1,323,234	.17	126,691,913	15.77
1917.....	21,559,030	2.64	—	—	1,440,034	.18	161,029,606	19.69
1918.....	23,888,121	2.87	—	—	1,571,811	.19	198,645,254	23.12
1919.....	27,084,148	3.19	—	—	1,686,822	.20	218,919,261	23.82
1920.....	28,384,850	3.29	—	—	1,895,783	.22	228,800,379	26.51
1921.....	28,344,569	3.22	—	—	1,956,326	.22	194,621,710	22.15
1922.....	28,151,444	3.16 ⁵	69,000	.01 ⁵	1,968,068	.22 ⁵	166,466,109	18.66 ⁵
1923.....	28,052,347	3.11 ⁵	196,000	.02 ⁵	1,987,186	.22 ⁵	170,420,792	18.92 ⁵
1924.....	27,863,502	3.05 ⁵	270,488	.03 ⁵	1,998,616	.22 ⁵	166,136,765	18.17 ⁵
1925.....	27,713,019	2.98 ⁵	396,471	.04 ⁵	2,020,470	.22 ⁵	165,235,168	17.78 ⁵
1926.....	27,433,463	2.90 ⁵	564,865	.06 ⁵	2,043,833	.22 ⁵	168,885,995	17.87 ⁵
1927.....	27,104,534	2.81 ⁵	813,784	.08 ⁵	2,080,196	.22 ⁵	172,100,763	17.86 ⁵
1928.....	27,737,963	2.82 ⁵	1,063,627	.11 ⁵	2,171,657	.22 ⁵	176,716,979	17.97 ⁵
1929.....	28,638,195	2.86 ⁵	1,330,498	.13 ⁵	2,290,789	.23 ⁵	178,291,030	17.78 ⁵
1930.....	28,562,330	2.80 ⁵	1,494,525	.15 ⁵	2,297,405	.23 ⁵	159,341,085	15.61 ⁵
1931.....	28,706,348	2.77	1,775,139	.17	2,346,054	.23	141,969,350	13.68

For footnotes see end of table, p. 764.

9.—Circulating Media in the Hands of the General Public, calendar years, 1900-31
—concluded from p. 763.

Year.	Dominion Notes, \$1, \$2, \$4, \$5 and fractionals. ²		Totals.		
	Amount. ¹	Per capita.	Amount.	Per capita.	Index Num- per capita. ⁴
	\$	\$	\$	\$	\$
1900.....	9,997,044	1.88	65,119,251	12.24	109.4
1901.....	10,595,169	1.97	70,152,727	13.06	109.8
1902.....	11,442,138	2.07	75,615,089	13.67	111.1
1903.....	12,321,172	2.17	82,999,447	14.63	119.4
1904.....	12,813,912	2.20	85,393,003	14.66	119.4
1905.....	13,499,894	2.25	88,804,740	14.82	121.1
1906.....	14,797,483	2.40	97,564,017	15.81	129.4
1907.....	15,973,227	2.53	105,111,373	16.68	136.4
1908.....	15,615,082	2.41	100,430,588	15.47	128.4
1909.....	16,235,774	2.43	104,280,702	15.58	127.4
1910.....	18,098,111	2.62	115,513,429	16.70	136.4
1911.....	21,497,429	2.98	128,171,943	17.79	145.4
1912.....	27,277,341	3.70	145,469,387	19.75	161.4
1913.....	29,067,278	3.86	153,360,822	20.37	166.4
1914.....	26,964,063	3.51	151,253,711	19.66	163.4
1915.....	25,881,570	3.29	150,819,823	19.18	156.4
1916.....	27,857,543	3.47	175,640,779	21.86	173.4
1917.....	31,221,311	3.82	215,249,981	26.31	214.4
1918.....	34,146,836	4.10	258,252,022	31.01	253.4
1919.....	35,492,643	4.19	283,182,874	33.40	272.4
1920.....	37,272,725	4.22	296,353,737	34.33	280.4
1921.....	33,825,582	3.85	258,748,277	29.44	240.4
1922.....	31,888,024	3.58 ⁵	228,542,645	25.62 ⁵	209.4
1923.....	33,387,155	3.71 ⁶	234,043,480	25.98 ⁵	212.4
1924.....	34,332,178	3.76 ⁵	230,601,549	25.22 ⁵	206.4
1925.....	32,175,284	3.46 ⁵	227,540,412	24.49 ⁵	200.4
1926.....	32,675,174	3.46 ⁵	231,603,330	24.51 ⁵	200.4
1927.....	33,689,474	3.50 ⁵	235,788,751	24.47 ⁵	199.4
1928.....	35,003,625	3.57 ⁵	242,793,302	24.69 ⁵	201.4
1929.....	36,811,966	3.67 ⁵	247,362,478	27.67 ⁵	201.4
1930.....	36,431,368	3.57 ⁵	228,126,713	22.35 ⁵	182.4
1931.....	36,465,462	3.52	211,262,353	20.36	166.4

¹Yearly averages.

²Dominion notes of larger denominations in hands of banks are not included, but provincial notes amounting to \$27,602 in 1930, are included.

³Per capita circulation in 1900=100.

⁴Figures supplied by the Mint as at Dec. 31 of each year, are the net issues of coinage since 1858 (see Table 4 of this chapter, pp. 758-9).

⁵Per capita figures for the years 1922-30 inclusive are worked out on the basis of revised population (see p. 110).

Section 2.—Banking in Canada.

Historical.—In the early days of banking one of the chief functions of banks was to issue promissory notes payable to the bearer on demand; where the bank's credit was good these notes passed freely from hand to hand, creating the chief circulating medium in the Canadas. In some cases in the Maritime Provinces bank notes were preferred to those issued by the Provincial Governments.

The need of a uniform circulating medium in Canada was felt by the merchants of Montreal toward the end of the eighteenth century, and the prospect of a proposed bank of issue to be known as the Canada Banking Company was issued in 1792. This scheme, however, depended chiefly on the co-operation of British capital and was frustrated by the outbreak of war with France. A second project in 1808 for the incorporation of a Bank of Canada failed to secure the assent of the Legislature of Lower Canada.

At the close of the war of 1812 the army bill currency was withdrawn, and public attention once more turned to the expediency of securing a currency through the establishment of banks. The Bank of Montreal began business toward the end of 1817 as a private institution, under articles of association based on the first charter of the Bank of the United States. In the following year under similar articles of association the Quebec Bank was established, as well as the Bank of Canada at Montreal and the Bank of Upper Canada at Kingston. The three former Canadian institutions obtained their provincial charters in 1822, while the Bank of Upper Canada was superseded by a second Bank of Upper Canada established at York (Toronto) as a chartered bank in 1821. Meanwhile the Bank of New Brunswick had been incorporated in 1820, while in Nova Scotia the Halifax Banking Co. (private) commenced business in 1825, and the Bank of Nova Scotia received a regular charter in 1832. With all of these earlier banks note issue was an important part of their business.

The Bank of British North America, previously incorporated in Great Britain, commenced business in Canada in 1836, while Molsons' Bank was established in 1853, the Bank of Toronto in 1855, the Banque Nationale in 1860 and the Banque Jacques-Cartier (later the Banque Provinciale du Canada) in 1862. The Union Bank was established in 1866, the Canadian Bank of Commerce in 1867. There were no fewer than 28 banks in existence at Confederation. These were as follows:—

Ontario and Quebec.

Bank of Montreal.
Quebec Bank.
Commercial Bank of Canada.
City Bank.
Gore Bank.
Bank of British North America.
Banque du Peuple.
Niagara District Bank.
Molsons' Bank.
Bank of Toronto.
Ontario Bank.
Eastern Townships Bank.
Banque Nationale.
Banque Jacques-Cartier.
Merchants' Bank of Canada.
Royal Canadian Bank.

Union Bank of Lower Canada.

Mechanics' Bank.

Canadian Bank of Commerce.

Nova Scotia.

Bank of Yarmouth.
Merchants' Bank of Halifax.
People's Bank of Halifax.
Union Bank of Halifax.
Bank of Nova Scotia.

New Brunswick.

Bank of New Brunswick,
Commercial Bank of New Brunswick.
St. Stephen's Bank.
People's Bank of New Brunswick.

Subsection 1.—The Canadian Banking System in General.¹

A brief résumé of the Canadian banking system must emphasize: (1) its growth, from the beginning closely related to the Montreal produce and export trade; (2) its development of the branch bank system in order to meet the demands of a rapidly moving frontier of settlement; (3) its adaptation to the requirements of the grain and cattle trade of the west; and (4) the consolidation during later years of the features which tended towards its early success. The development of a stable system has been accompanied by failures,² particularly marked about the middle of the 19th century, but progress has nevertheless been steady, based on sound principles, and adapted as closely as could be to the particular needs of the country.

¹ For details regarding Canadian bank note issue, see p. 762.

² See Table 23, pp. 779-780.

The branch bank forms perhaps the most distinctive feature of the Canadian system as it exists to-day, and for a country such as Canada, vast in area and with a small population, the plan has proved a good one. A result of the growth of branch banks has been the partially centralized system that now obtains—centralized as to banks, of which there are now 10, rather than as to districts as in the partially centralized system of the United States.

A second peculiarity of the system may be noted—the existence and operation of the Canadian Bankers' Association. Through this body, which was incorporated in 1900 and acts under the authority of the Dominion Treasury Board, co-operation of individual banks is facilitated and encouraged. The association supervises clearing-house transactions, appoints curators to supervise the affairs of banks which have suspended business, and oversees the printing and issue of notes to its members. Adherence to similar principles and a linking together of the credit of the system result from the co-operation secured through the association.

The elimination of weaker banks or their amalgamation with more stable ones has been a progressive move towards greater efficiency. Co-operation between the banks and the Dominion Government has been made permanent through the medium of periodic returns and the regulation of note issues and reserves.

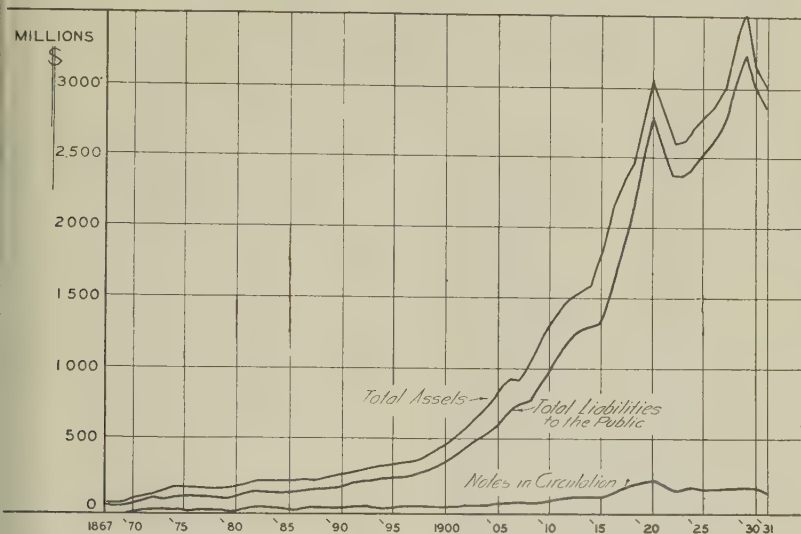
Apart from the many detailed services rendered to its clients, the Canadian banking system may be said to perform three main functions. In brief they are as follows:—

1. To put into circulation the paper currency which forms the circulating medium for small exchanges.
2. To provide a mechanism of exchange by the issue of bills of exchange, etc.
3. To form a means by which the credit of the banks and their unused deposits may be put to immediate productive use.

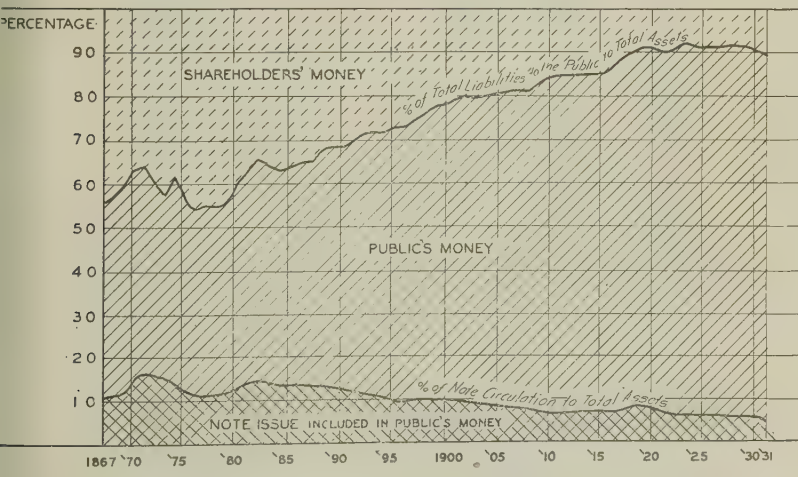
Bank Legislation.—An article treating of bank legislation from 1820 to the present, furnished by the Office of the Inspector-General of Banks, Department of Finance, appeared at pp. 891-896 of the 1931 edition of the Year Book.

Banking Statistics.—In Table 10 is given an historical summary of Canadian banking business since Confederation. In order to afford a clear view of the nature of banking transactions in Canada, bank liabilities have been classified in two main groups, liabilities to shareholders and liabilities to the public, only the latter group being ordinarily considered when determining the financial position of any such institution. Assets are divided into four groups, other assets being included in the total. As of interest to students of banking practice, the relative rates of increase of capital and reserve funds may be noted on the accompanying graphs, also the great increase in the proportion of liabilities to the public to total liabilities, and the gradually increasing percentage of liabilities to the public to total assets. The declining proportion of notes in circulation to total liabilities to the public is also characteristic of the evolution of banking in recent times. Holdings of Dominion and Provincial Government and municipal securities were relatively insignificant prior to the Great War.

TOTAL ASSETS, TOTAL LIABILITIES TO THE PUBLIC
AND
NOTE CIRCULATION OF THE CHARTERED BANKS, 1867-1931



PERCENTAGE DISTRIBUTION OF THE TOTAL ASSETS
OF THE
CHARTERED BANKS, 1867-1931



10.—Historical Summary Showing Development of the Canadian Banking Business calendar years 1867-1931.

NOTE.—The statistics in this table are yearly averages computed from the twelve monthly returns

LIABILITIES.

Cal- endar Year.	Liabilities to Shareholders.			Liabilities to the Public.			
	Capital.	Rest or Reserve Fund.	Notes in Circulation.	Deposits payable on Demand in Canada.	Deposits payable after Notice or on a fixed day in Canada.	Total on Deposit. ¹	Total Liabilities to the Public. ²
	\$	\$	\$	\$	\$	\$	\$
1867 ⁴	30,926,470	-	9,346,081	-	-	31,375,316	43,273,940
1868.....	30,507,447	-	9,350,646	-	-	33,653,594	45,144,840
1869.....	30,782,637	-	9,539,511	-	-	40,028,090	50,940,270
1870.....	33,031,249	-	15,149,031	-	-	48,763,205	65,685,830
1871.....	37,095,340	-	20,914,637	-	-	56,287,391	80,250,910
1872.....	45,190,085	-	25,296,454	-	-	61,481,452	90,864,610
1873.....	54,690,561	-	27,165,878	-	-	65,426,042	98,982,610
1874.....	60,388,340	-	27,904,963	-	-	77,113,754	116,412,330
1875.....	64,619,513	-	23,035,039	-	-	74,642,446	104,609,330
1876.....	66,804,398	-	21,245,935	-	-	72,852,686	99,614,000
1877.....	65,206,009	-	20,704,338	-	-	74,166,287	99,810,770
1878.....	63,682,863	-	20,475,586	-	-	70,856,253	95,538,830
1879.....	62,737,276	-	19,486,103	-	-	73,151,425	96,760,110
1880.....	60,052,117	-	22,529,623	-	-	85,303,814	111,838,940
1881.....	59,534,977	-	28,516,692	-	-	94,346,481	127,176,220
1882.....	59,799,644	-	33,582,080	-	-	110,133,124	149,777,230
1883.....	61,390,118	-	33,283,302	-	-	107,648,383	145,938,000
1884.....	61,579,021	18,149,193	30,449,410	-	-	102,398,228	137,493,900
1885.....	61,711,566	17,879,716	30,720,762	-	-	104,014,660	138,762,600
1886.....	61,662,093	17,817,693	31,030,499	-	-	111,449,365	146,954,220
1887.....	60,860,561	17,873,582	32,478,118	-	-	112,656,985	149,704,440
1888.....	60,345,035	18,529,911	32,205,259	-	-	125,136,473	163,990,770
1889.....	60,229,752	19,766,426	32,207,144	-	-	134,650,732	173,029,690
1890.....	59,974,902	21,127,838	32,834,511	-	-	135,548,704	173,207,510
1891.....	60,700,697	22,821,501	33,061,042	-	-	148,396,968	187,332,330
1892.....	61,626,311	24,511,709	33,788,679	-	-	160,668,471	208,062,060
1893.....	62,009,346	25,837,753	33,811,925	-	-	174,776,722	217,195,620
1894.....	62,063,371	27,041,235	31,166,003	-	-	181,743,890	221,066,770
1895.....	61,800,700	27,273,500	30,807,041	-	-	190,916,939	229,794,330
1896.....	62,043,173	26,526,632	31,456,297	-	-	193,616,049	232,338,000
1897.....	62,027,703	27,087,782	34,350,118	-	-	211,788,096	252,660,770
1898.....	62,571,920	27,627,520	37,873,934	-	-	236,161,062	281,076,690
1899.....	63,726,399	28,958,989	41,513,139	-	-	266,504,528	318,624,000
1900.....	65,154,594	32,372,394	46,574,780	-	-	305,140,242	356,394,000
1901.....	67,035,615	36,249,145	50,601,205	95,169,631	221,624,664	349,573,327 ²	420,003,770
1902.....	69,869,670	40,212,943	55,412,598	104,424,203	244,062,545	390,370,493 ²	466,963,690
1903.....	76,453,125	47,761,536	60,244,072	112,461,757	269,911,501	424,167,140 ²	507,527,690
1904.....	79,234,191	52,082,335	61,769,888	117,962,023	307,007,192	470,265,744 ²	554,014,000
1905.....	82,655,828	56,474,124	64,025,643	138,116,550	338,411,275	531,243,476 ²	618,678,690
1906.....	91,035,604	64,002,266	70,638,870	165,144,569	381,778,705	605,968,513 ²	713,790,000
1907.....	95,953,732	69,806,892	75,784,482	166,342,144	413,014,657	654,839,711 ²	769,026,690
1908.....	96,147,526	72,041,265	71,401,697	169,721,755	406,103,063	658,367,015 ²	762,077,000
1909.....	97,329,333	75,887,695	73,943,119	225,414,828	464,635,262	783,298,880 ²	882,598,000
1910.....	98,787,929	79,970,346	82,120,303	260,232,399	532,087,627	909,964,839 ²	1,019,177,000
1911.....	103,009,256	88,892,256	89,982,223	304,801,755	568,976,209	980,433,788 ²	1,097,661,000
1912.....	112,730,943	102,090,476	100,146,541	359,431,895	625,705,765	1,126,910,383 ²	1,240,124,000
1913.....	116,297,729	109,129,393	105,265,336	367,214,143	626,199,470	1,126,871,523 ²	1,287,372,000
1914.....	114,759,807	113,130,626	104,600,185	346,069,908	656,760,687	1,144,211,363 ²	1,309,944,000
1915.....	113,982,741	113,020,310	105,137,092	358,444,252	690,904,274	1,198,340,315 ²	1,353,629,000
1916.....	113,175,353	112,989,541	126,691,913	428,717,781	780,842,383	1,148,035,429 ²	1,596,905,000
1917.....	111,637,755	113,560,997	161,029,606	468,049,790	928,271,838	1,643,203,020 ²	1,866,228,000
1918.....	110,618,504	114,041,500	198,645,254	587,342,904	966,341,499	1,912,395,780 ²	2,184,359,000
1919.....	115,004,960	121,160,774	218,919,261	621,676,065	1,125,202,403	2,189,428,885 ²	2,495,582,000
1920.....	123,617,120	128,756,690	228,800,379	653,862,869	1,239,308,076	2,438,079,792 ²	2,784,068,000
1921.....	129,096,339	134,104,030	194,621,710	551,914,643	1,289,347,063	2,434,586,736 ²	2,556,454,000
1922.....	125,456,485	129,627,270	166,466,109	302,781,234	1,191,637,004	2,120,997,030 ²	2,364,822,000
1923.....	124,373,293	126,441,667	170,420,792	523,170,930	1,197,277,065	2,107,606,111 ²	2,374,308,000
1924.....	122,409,504	123,841,666	166,136,765	511,218,736	1,198,246,414	2,130,621,760 ²	2,438,771,000
1925.....	118,831,327	123,108,366	165,235,168	531,180,578	1,269,542,584	2,221,160,611 ²	2,532,832,000
1926.....	116,638,254	125,441,700	168,885,995	533,322,935	1,340,559,021	2,277,192,043 ²	2,604,601,000
1927.....	121,666,774	130,320,897	172,100,763	596,069,007	1,399,062,201	2,415,132,260 ²	2,758,324,000
1928.....	122,839,879	134,087,485	176,716,979	677,467,295	1,496,608,451	2,610,594,865 ²	3,044,742,000
1929.....	137,269,085	150,636,682	178,291,030	696,387,381	1,479,870,058	2,696,747,857 ²	3,215,033,000
1930.....	144,560,874	160,639,246	159,341,085	622,895,347	1,427,569,716	2,516,611,587 ²	2,909,530,000
1931.....	144,674,853	162,075,000	141,969,350	578,604,394	1,437,976,749	2,422,834,828 ²	2,741,554,000

¹Includes the deposits of Dominion and Provincial Governments.

²Includes amounts deposited elsewhere than in Canada, not included in deposits prior to 1901.

³Includes other liabilities to the public.

⁴Six months' average.

—Historical Summary Showing Development of the Canadian Banking Business, calendar years 1867-1931—concluded.

NOTE.—The statistics in this table are yearly averages computed from the twelve monthly returns.

ASSETS.

Calendar Year.	Specie and Dominion Notes (including Deposits in Central Gold Reserves 1913-1930).	Dominion and Provincial Government Securities.	Municipal Securities in Canada and Public Securities elsewhere than in Canada.	Total Loans.	Total Assets. ¹	Percentage of Liabilities to the Public to Total Assets. ¹
	\$	\$	\$	\$	\$	p.c.
67 ²	-	-	-	53,889,703	78,294,670	55.27
68	-	-	-	52,299,050	79,860,976	56.53
69	-	-	-	56,433,953	86,283,693	59.04
70	-	-	-	66,276,961	103,197,103	63.65
71	-	-	-	84,799,841	125,273,631	64.06
72	-	-	-	106,744,665	148,862,445	61.04
73	-	-	-	119,274,317	166,056,595	56.60
74	-	-	-	131,680,111	187,921,031	61.95
75	-	-	-	136,029,307	186,255,330	56.17
76	-	-	-	127,621,577	183,499,801	54.29
77	-	-	-	125,681,658	181,019,194	55.14
78	-	-	-	119,682,659	175,450,274	54.45
79	-	-	-	113,485,108	173,548,490	55.75
80	-	-	-	102,166,115	184,276,190	60.69
81	-	-	-	116,953,497	200,613,879	63.39
82	-	-	-	140,077,194	227,426,835	65.86
83	-	-	-	143,944,957	228,084,650	63.98
84	-	-	-	130,490,053	219,998,642	62.50
85	-	-	-	126,827,792	219,147,080	63.32
86	-	-	-	132,833,313	228,061,872	64.44
87	-	-	-	139,753,755	230,393,072	64.98
88	-	-	-	141,002,373	243,504,164	67.35
89	-	-	-	149,958,980	253,789,803	68.18
90	-	-	-	153,301,335	254,546,329	68.05
91	-	-	-	171,082,677	269,307,032	69.56
92	17,794,201	-	-	193,455,883	291,635,251	71.34
93	19,714,648	-	-	206,623,042	302,696,715	71.75
94	22,371,954	-	-	204,124,939	307,520,020	71.87
95	22,992,872	-	-	203,730,800	316,536,510	72.50
96	22,318,627	-	-	213,211,996	320,937,643	73.39
97	24,178,151	-	-	212,014,635	341,163,505	74.06
98	25,330,564	-	-	223,806,320	370,583,991	75.86
99	26,682,971	-	-	251,467,076	412,504,768	77.24
00	29,047,382	-	-	279,279,761	459,715,065	77.52
01	32,088,501	11,331,385	13,031,176	388,299,888	531,829,324	78.97
02	35,478,598	9,804,998	14,487,632	430,662,670	585,761,109	79.72
03	42,510,574	11,186,607	14,896,472	472,019,689	641,543,226	79.11
04	50,307,871	10,705,202	15,560,145	509,011,993	695,417,756	79.67
05	56,590,323	8,833,626	18,820,985	559,814,918	767,490,183	80.61
06	61,287,581	9,360,614	20,460,670	655,869,879	878,512,076	81.25
07	70,550,520	9,546,927	21,198,817	709,975,274	945,685,708	81.32
08	80,654,276	9,522,743	19,788,937	670,170,833	941,290,619	80.96
09	95,558,461	11,653,798	21,707,363	762,195,546	1,067,007,534	82.72
10	104,735,626	14,741,621	21,696,987	870,100,890	1,211,452,351	84.13
11	120,146,690	10,637,580	22,848,170	926,909,616	1,303,131,260	84.23
12	132,853,405	9,388,968	22,586,119	1,061,843,991	1,470,065,478	84.36
13	141,872,884	9,995,237	23,183,162	1,111,993,263	1,530,093,671	84.14
14	165,845,957	11,697,603	22,707,738	1,101,880,924	1,555,676,395	84.20
15	208,438,854	12,814,898	31,553,091	1,066,252,854	1,596,424,643	84.75
16	230,113,891	29,717,007	117,902,686	1,135,866,531	1,839,286,709	86.82
17	265,389,567	131,078,854	138,341,125	1,219,161,252	2,111,559,555	88.38
18	351,762,841	162,821,026	252,936,568	1,339,660,669	2,432,331,418	89.81
19	370,775,723	214,621,625	256,270,715	1,552,971,202	2,754,568,118	90.60
20	367,165,054	120,356,255	210,826,991	1,935,449,637	3,064,133,843	90.86
21	335,081,032	166,688,146	156,552,503	1,781,184,115	2,841,782,079	89.96
22	305,522,425	198,826,031	90,181,491	1,643,643,443	2,638,776,483	89.62
23	291,999,879	242,292,315	112,642,627	1,606,932,483	2,643,773,986	92.16
24	266,961,330	314,099,097	135,597,860	1,546,792,080	2,701,427,011	90.28
25	250,714,043	358,344,887	147,563,292	1,562,017,009	2,789,619,061	90.80
26	252,754,268	343,595,936	127,765,375	1,682,379,658	2,864,019,213	90.94
27	252,188,447	324,580,796	133,314,843	1,839,905,275	3,029,680,616	91.04
28	264,804,251	333,837,004	124,996,823	2,072,403,628	3,323,163,195	91.62
29	261,625,173	341,744,572	104,309,024	2,279,247,504	3,528,468,027	91.13
30	232,016,616	316,196,343	101,585,131	2,064,597,746	3,237,073,853	89.88
31	207,983,857	454,386,965	154,829,056	1,764,088,477	3,066,018,472	89.42

¹Includes other assets. ²Six months' average.

Bank Assets and Liabilities.—Tables 11 and 12 show in detail the assets and liabilities of Canadian chartered banks for the four years 1928 to 1931, the figures being yearly averages of the totals shown in the monthly statements made to the Minister of Finance.

11.—Assets of Chartered Banks in the calendar years 1928-31.

NOTE.—The statistics in this table are averages computed from the twelve monthly returns in each year.

Assets.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$
Quick Assets—				
Current gold and subsidiary coin.....	71,423,881	71,783,435	72,665,124	70,616,40
Dominion notes.....	123,635,143	130,227,539	119,220,626	111,324,01
Deposit with Minister of Finance for security of note circulation.....	6,027,466	6,246,861	6,590,934	6,825,60
Deposit in central gold reserves.....	69,745,227	59,614,199	40,130,866	26,043,43
Notes of other banks.....	16,507,928	16,807,334	15,162,266	13,088,10
United States and other foreign currencies..	21,228,912	19,468,671	18,775,238	16,264,77
Cheques of other banks.....	148,157,905	149,545,199	127,661,545	101,543,16
Deposits made with and balances due from other banks in Canada.....	4,465,411	4,698,323	5,696,508	4,274,89
Due from banks and banking correspondents in the United Kingdom.....	6,874,338	4,826,444	6,835,485	4,503,75
Due from banks and banking correspondents elsewhere than in Canada and the United Kingdom.....	67,531,596	86,178,585	94,240,248	97,749,02
Totals, Quick Assets.....	535,597,807	549,396,590	506,978,846	452,232,68
Other Liquid Assets—				
Dominion Government and Provincial Government securities.....	333,837,004	341,744,572	316,196,343	454,386,96
Canadian municipal securities, and British, foreign and colonial public securities other than Canadian.....	124,996,822	104,309,024	101,585,131	154,829,05
Railway and other bonds, debentures and stocks.....	63,794,381	52,961,542	53,856,068	65,141,21
Call and short (not exceeding thirty days) loans in Canada on stocks, debentures and bonds.....	253,488,198	267,271,438	226,725,099	170,185,31
Call and short (not exceeding thirty days) loans elsewhere than in Canada.....	267,352,621	301,091,053	187,706,019	108,574,30
Totals, Other Liquid Assets.....	1,043,469,027	1,067,377,628	886,068,660	953,116,84
Other Assets—				
Other current loans and discounts in Canada.....	1,177,484,482	1,342,666,883	1,285,836,995	1,123,600,88
Other current loans and discounts elsewhere than in Canada.....	261,943,962	248,367,887	238,954,152	205,382,06
Loans to the Government of Canada.....	—	—	—	—
Loans to Provincial Governments.....	29,569,721	19,002,655	17,491,292	29,072,92
Loans to cities, towns, municipalities and school districts.....	75,072,168	93,325,211	100,233,545	117,970,49
Overdue debts.....	7,492,476	7,522,377	7,650,644	9,302,52
Real estate, other than bank premises.....	6,736,392	5,618,820	5,472,741	6,244,72
Mortgages on real estate sold by the bank.....	6,735,847	7,221,774	7,023,730	6,488,98
Bank premises at not more than cost, less amounts (if any) written off.....	71,573,462	75,536,822	77,465,028	79,112,29
Liabilities of customers under letters of credit <i>as per contra</i>	97,624,647	100,473,805	90,355,973	67,896,5
Other assets not included under the foregoing heads.....	9,863,204	11,957,574	13,542,253	15,597,50
Totals, Other Assets.....	1,744,096,361	1,911,693,808	1,844,026,353	1,660,668,99
Grand Totals, Assets.....	3,323,163,195	3,528,468,027	3,237,073,853	3,066,018,4

12.—Liabilities of Chartered Banks in the calendar years 1928-31.

NOTE.—The statistics in this table are averages computed from the twelve monthly returns in each year.

Liabilities.	1928.	1929.	1930.	1931.
Liabilities to the Public—	\$	\$	\$	\$
Notes in circulation.....	176,716,979	178,291,030	159,341,085	141,438,920
Balance due to Dominion Government after deducting advances for credits, pay lists etc.....	42,219,976	77,815,312	47,706,626	48,978,777
Advances under the Finance Act.....	51,528,333	82,916,667	37,308,333	19,416,666
Balances due to Provincial Governments...	21,846,611	24,536,732	28,036,339	24,372,336
Deposits by the public payable on demand in Canada.....	677,467,295	696,387,381	622,895,347	578,604,394
Deposits by the public payable after notice or on a fixed day in Canada.....	1,496,608,451	1,479,870,058	1,427,569,716	1,437,976,749
Deposits elsewhere than in Canada.....	372,452,532	418,138,374	390,403,559	332,902,489
Deposits made by and balances due to other banks in Canada.....	15,496,756	14,528,474	14,831,131	12,596,946
Due to banks and banking correspondents in the United Kingdom.....	13,449,698	25,693,879	11,539,556	5,301,868
Due to banks and banking correspondents elsewhere than in Canada and the United Kingdom.....	63,038,671	100,254,711	64,076,035	62,055,917
Bills payable.....	12,048,303	10,842,329	9,187,617	4,489,370
Acceptances under letters of credit.....	97,624,647	100,473,804	90,355,973	67,896,762
Liabilities not included under foregoing heads.....	4,243,913	5,754,347	6,278,946	5,523,025
Totals, Liabilities to the Public.....	3,044,742,165	3,215,503,098	2,909,530,263	2,741,554,219
Liabilities to Shareholders—				
Capital paid up.....	122,839,879	137,269,085	144,560,874	144,674,853
Amount of rest or reserve fund.....	134,087,485	150,636,682	160,639,246	162,075,000
Totals, Liabilities to Shareholders.....	256,927,364	287,905,767	305,200,120	306,749,853
Grand Totals, Liabilities.....	3,301,669,529	3,503,408,865	3,214,730,383	3,048,304,073

Deposits, Loans and Discounts.—As an index of the course of banking business, of the nature of many transactions undertaken and of the general security of bank assets, loans and discounts are of great value. They illustrate clearly the channels into which a large proportion of the potential earning power of the banks is directed, and, by providing a comparison between investments made in lending operations inside and outside of Canada, afford essential information regarding the product by a bank of one of its most important activities.

Bank deposits (the demand deposits being to a large extent the product of lending operations, by which credit is advanced on security followed by the deposit of the proceeds of a loan) are also of considerable importance, and, on account of their derivation, are one of the most valuable records of the volume of business done at any time. Actual deposits of cash (mainly deposits payable after notice or on a fixed day) are, of course, included with the amounts deposited after the granting of loans.

Tables 13 and 14, following, give the deposits and loans of Canadian chartered banks for the years 1927 to 1931.

13.—Deposits in Chartered Banks in Canada and elsewhere, for the calendar years 1927-31.

NOTE.—The statistics in this table are averages computed from monthly returns in each year.

Item.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Deposits by the public in Canada—					
Payable on demand.....	596,069,007	677,467,295	696,387,381	622,895,347	578,604,344
Payable after notice or on a fixed day.....	1,399,062,201	1,496,608,451	1,479,870,058	1,427,569,716	1,437,976,759
Deposits elsewhere than in Canada.....	349,008,560	372,452,532	418,138,374	390,403,559	332,902,434
Balances due to Dominion and Provincial Governments.....	70,992,492	64,066,587	102,352,044	75,742,965	73,351,113
Totals, Deposits.....	2,415,132,260	2,610,594,865	2,696,747,857	2,516,611,587	2,422,834,649

14.—Loans of Chartered Banks in Canada and elsewhere, for the calendar years 1927-31.

NOTE.—The statistics in this table are averages computed from monthly returns in each year.

Item.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Call and short loans on stocks and bonds in Canada.....	185,652,795	253,488,198	267,271,438	226,725,099	170,185,313
Call and short loans elsewhere than in Canada.....	268,536,339	267,352,621	301,091,053	187,706,019	108,574,301
Current loans in Canada ¹	1,091,876,489	1,252,556,650	1,435,992,094	1,386,070,540	1,241,571,344
Current loans elsewhere than in Canada.....	269,337,398	261,943,962	248,367,887	238,954,152	205,382,061
Loans to Governments.....	15,801,827	29,569,721	19,002,655	17,491,292	29,072,922
Overdue debts.....	8,700,427	7,492,476	7,522,377	7,650,644	9,302,522
Totals, Loans.....	1,839,905,275	2,072,403,628	2,279,247,534	2,064,597,746	1,726,957,580

¹Includes loans to cities, towns, municipalities and school districts.

Bank Reserves.—The Bank Act contains no specific provisions as to the amount of gold to be held against either note circulation or general liabilities of a bank. It requires, however, that 40 p.c. of whatever cash reserves a bank finds it expedient to carry shall be in Dominion notes. A second provision instructs the Minister of Finance to arrange for the delivery of Dominion notes to any bank in exchange for specie. Thus the gold reserve against Dominion notes, to the extent that the notes are held by the banks, is reserve against banking operations, the Dominion Government being the custodian of the gold for the banks. The other cash element in bank reserves is specie in hand. In addition to this cash on hand Canadian banks carry three other kinds of assets which are regarded as reserves being funds more or less immediately available for the liquidation of liabilities. These are: (1) cash balances in banks outside of Canada; (2) call and short loans in New York (the favorite call loan market); and (3) readily marketable securities. These are shown, together with net liabilities, in Table 15. In Table 16, the ratio to net liabilities of each element of the reserve is shown.

15.—Bank Reserves, with Liabilities, calendar years 1901-31—concluded on p. 774.

NOTE.—The statistics in this table are averages computed from monthly returns in each year. Figures for 1892-1900 were given on p. 872 of the 1927-28 Year Book.

Year.	Specie, Dominion Notes and Foreign Currencies. ¹	Cash Due from—			Call and Short Loans elsewhere than in Canada.
		Banks in the United Kingdom.	Banks elsewhere than in Canada and the United Kingdom.	All Outside Banks.	
	\$	\$	\$	\$	\$
1901.....	32,088,501	5,598,939	12,811,524	18,410,463	40,620,238
1902.....	35,478,598	6,598,159	13,519,799	20,117,958	46,162,659
1903.....	42,510,574	5,638,954	14,192,232	19,831,186	38,025,662
1904.....	50,307,871	7,523,615	16,817,357	24,340,972	41,212,007
1905.....	56,590,323	9,960,560	19,201,939	29,162,499	51,452,955
1906.....	61,287,581	8,877,979	16,801,119	25,679,098	59,363,639
1907.....	70,550,520	6,027,157	15,363,728	21,390,885	52,907,513
1908.....	80,654,276	9,828,186	30,822,761	40,650,947	60,764,075
1909.....	95,558,461	10,311,864	31,779,144	42,091,008	119,728,263
1910.....	104,735,696	18,892,833	28,301,602	47,194,435	112,777,530
1911.....	120,146,690	21,122,092	29,695,985	50,818,077	91,097,704
1912.....	132,853,405	21,338,926	28,894,103	50,233,029	105,718,070
1913.....	135,267,623	13,329,642	28,238,329	41,567,971	98,608,615
1914.....	159,775,124	12,230,533	36,932,958	49,163,491	112,438,696
1915.....	200,113,021	20,824,559	43,781,939	64,606,498	118,896,692
1916.....	207,797,164	24,025,192	72,923,228	96,948,420	164,786,760
1917.....	210,475,400	17,885,648	53,021,952	70,907,600	157,430,643
1918.....	256,656,174	10,973,606	47,419,961	58,393,567	162,233,308
1919.....	257,429,889	12,359,426	50,904,693	63,264,119	163,227,204
1920.....	259,462,332	17,669,923	62,100,182	79,770,105	200,098,050
1921.....	255,474,332	12,857,830	60,885,266	73,743,096	172,137,325
1922.....	251,169,892	10,309,844	87,972,048	98,281,892	178,457,564
1923.....	234,501,513	8,090,470	54,358,289	62,448,759	198,047,516
1924.....	235,743,196	7,819,605	66,701,920	74,521,525	181,705,220
1925.....	230,011,447	8,583,316	59,921,935	68,505,251	225,461,687
1926.....	214,182,302	11,520,189	59,261,609	70,781,798	250,080,998
1927.....	210,433,492	9,790,411	61,793,595	71,584,006	268,536,339
1928.....	216,287,938	6,874,338	67,531,596	74,405,934	267,352,621
1929.....	221,479,645	4,826,444	86,178,585	91,005,029	301,091,053
1930.....	210,660,988	6,835,485	94,240,248	101,075,733	187,706,019
1931.....	198,204,732	4,503,753	97,749,022	102,252,775	108,574,302

¹Does not include "Deposit with the Minister of Finance for security of the note circulation" of insolvent banks, nor "Deposit in the central gold reserves", instituted in 1913 as a reserve against additional bank-note circulation. The average amounts of these deposits during each of the latest four years are shown in Table 11 of this chapter.

15.—Bank Reserves, with Liabilities, calendar years 1901-31—concluded.

NOTE.—The statistics in this table are averages computed from monthly returns in each year. Figures for 1892-1900 will be found at p. 873 of the 1927-28 Year Book.

Year.	Securities.				Total Reserves. ¹	Total Net Liabilities. ²
	Dominion and Provincial Government Securities.	Canadian Municipal, British, Foreign and Colonial Public Securities.	Railway and other Bonds.	Total.		
	\$	\$	\$	\$	\$	\$
1901.....	11,831,385	13,031,176	30,440,258	54,802,819	145,322,021	405,915,468
1902.....	9,804,998	14,487,633	34,859,390	59,152,021	160,911,236	451,052,607
1903.....	11,186,607	14,896,472	37,800,893	63,883,972	164,251,394	489,439,303
1904.....	10,705,202	15,560,146	38,779,477	65,044,825	180,905,675	534,147,781
1905.....	8,833,627	18,820,985	39,974,520	67,629,132	204,834,909	595,027,264
1906.....	9,860,614	20,460,625	41,125,898	70,947,137	217,277,455	684,185,650
1907.....	9,546,760	21,198,817	41,239,589	71,985,166	216,834,084	737,505,039
1908.....	9,522,743	19,788,937	42,651,006	71,962,686	254,031,984	726,443,678
1909.....	11,653,798	21,707,363	50,783,614	84,144,775	341,522,507	844,098,072
1910.....	14,741,621	21,696,987	56,194,734	92,633,342	357,341,003	974,731,187
1911.....	10,637,580	22,848,170	60,909,240	94,394,990	356,457,461	1,044,712,367
1912.....	9,388,968	22,586,119	64,080,763	96,055,850	384,860,354	1,178,577,787
1913.....	9,995,237	23,183,161	70,713,075	103,891,473	379,329,682	1,222,752,292
1914.....	11,697,603	22,707,738	68,636,267	103,041,608	424,418,919	1,251,372,615
1915.....	12,814,898	31,553,091	74,020,538	118,388,527	502,004,738	1,298,018,989
1916.....	29,717,007	117,902,686	68,386,482	216,006,175	685,538,519	1,520,438,686
1917.....	131,078,854	183,341,125	58,958,908	373,378,887	812,192,530	1,771,264,882
1918.....	162,821,026	252,936,568	56,103,418	471,861,012	949,144,061	2,071,307,749
1919.....	214,621,625	256,270,715	54,429,301	525,321,641	1,009,242,583	2,363,044,215
1920.....	120,356,255	210,826,991	48,031,228	379,214,474	918,544,961	2,608,151,194
1921.....	166,688,146	156,552,503	45,728,878	368,969,527	870,324,280	2,393,459,361
1922.....	198,826,031	90,131,491	43,208,758	332,166,280	860,073,353	2,219,372,799
1923.....	242,292,315	112,642,627	46,857,264	401,792,206	896,789,994	2,222,479,569
1924.....	314,099,097	135,597,860	52,864,890	502,561,847	994,531,783	2,314,701,740
1925.....	358,344,887	147,563,292	59,597,468	565,505,647	1,089,484,032	2,396,104,386
1926.....	343,595,936	127,765,375	61,455,745	532,817,056	1,067,862,154	2,481,678,160
1927.....	324,580,796	133,314,843	63,075,762	520,971,402	1,071,525,239	2,616,056,053
1928.....	333,837,004	124,996,823	62,794,381	522,628,208	1,080,674,701	2,880,242,999
1929.....	341,744,572	104,309,024	52,961,542	499,015,138	1,112,590,865	3,062,844,009
1930.....	316,196,343	101,585,131	53,856,068	471,637,542	971,080,282	2,766,706,452
1931.....	454,886,965	154,829,056	65,141,210	674,357,232	1,083,389,041	2,626,922,950

¹See footnote 1 on preceding page.

²Net liabilities are obtained by deducting from total liabilities to the public, as shown in Table 10, the items "Notes of other banks", "Cheques on other banks", "Loans to other banks in Canada, secured, including bills rediscounted", which represent indebtedness within the system and are counterbalanced by credits within the system.

16.—Ratio of Bank Reserves to Net Liabilities,¹ calendar years 1901-31.

NOTE.—The statistics in this table are based upon the averages of the monthly returns in each year.
 Figures for 1892-1900 will be found at p. 874 of the 1927-28 Year Book.

Year.	Cash on hand.	Cash due from Banks outside of Canada.	Call and Short Loans elsewhere than in Canada.	Securities.	Total Reserves.
	p.c.	p.c.	p.c.	p.c.	p.c.
901.....	8.0	4.5	10.0	13.5	36.0
902.....	7.9	4.4	10.2	13.1	35.6
903.....	8.9	4.0	7.7	13.0	33.6
904.....	9.4	4.5	7.7	12.1	33.7
905.....	9.5	4.9	8.6	11.3	34.3
906.....	8.9	3.7	8.7	10.4	31.7
907.....	9.5	2.9	7.2	9.7	29.3
908.....	11.1	5.5	8.3	9.9	34.8
909.....	11.3	5.0	14.2	9.9	40.4
910.....	10.7	4.8	11.5	9.5	36.5
911.....	11.5	4.8	8.7	9.0	34.0
912.....	11.3	4.3	8.9	8.1	32.5
913.....	11.1	3.4	8.1	8.5	31.1
914.....	12.8	3.9	9.0	8.2	33.9
915.....	15.4	5.0	9.2	9.1	38.7
916.....	13.7	6.4	10.8	14.2	45.1
917.....	11.9	4.0	8.9	21.1	45.9
918.....	12.4	2.8	7.8	22.8	45.8
919.....	10.9	2.7	6.9	22.2	42.7
920.....	9.9	3.1	7.7	14.5	35.2
921.....	10.7	3.1	7.2	15.4	36.4
922.....	11.3	4.4	8.0	15.0	38.7
923.....	10.6	2.8	8.9	18.1	40.4
924.....	10.2	3.2	7.9	21.7	43.0
925.....	9.6	2.9	9.4	23.6	45.5
926.....	8.6	2.8	10.1	21.5	43.0
927.....	8.0	2.7	10.3	19.9	40.9
928.....	7.5	2.6	9.3	18.1	37.5
929.....	7.2	2.9	9.8	16.3	36.3
930.....	7.6	3.7	6.8	17.0	35.1
931.....	7.5	3.9	4.1	25.7	41.2

¹See Table 15 for actual amounts of reserves.

Subsection 2.—The Individual Chartered Banks of Canada.¹

During the period from 1881 to 1901, the number of chartered banks doing business in Canada under the Bank Act remained almost the same, 36 in 1881 and 36 in 1891, and 34 in 1901, but during the present century there has been in banking, as in other industries, an era of amalgamations, the number of banks having dropped to 25 in 1913 and to 10 in December, 1931. That this has been far from involving a curtailment of banking facilities is seen in Table 10, which shows the development of the banking business since 1867, and in Table 17, which compares the number of branch banks existing in Canada at different periods, showing a growth from 123 at Confederation to 3,970 inclusive of sub-agencies at Dec. 31, 1931, besides 179 branches in other countries. Table 18 gives the number of branches of the various banks, by provinces, as at Dec. 31, 1931, while Table 19 contains the statistics of branches of Canadian banks doing business outside of Canada, an extension of Canadian banking (more especially to Newfoundland and the West Indies) which has proceeded very rapidly in recent years.

¹Revised by H. T. Ross, Secretary, Canadian Bankers' Association.

17.—Number of Branches of Chartered Banks in Canada, by Provinces, 1868, 1902, 1905, 1916, 1920, 1927-31.

Province.	1868.	1902.	1905.	1916. ¹	1920. ¹	1927. ¹	1928. ¹	1929. ¹	1930. ¹	1931.
P.E.I.....	—	9	10	17	41	28	28	28	28	28
Nova Scotia.....	5	89	101	111	169	138	139	138	138	138
New Brunswick.....	4	35	49	82	121	103	102	102	102	101
Quebec.....	12	137	196	784	1,150	1,105	1,135	1,169	1,183	1,178
Ontario.....	100	349	549	1,154	1,586	1,357	1,383	1,396	1,409	1,409
Manitoba.....	—	52	95	200	349	227	231	239	239	232
Saskatchewan.....	—	—	—	413	591	436	455	462	447	344
Alberta.....	—	30	87	247	424	280	293	308	304	278
British Columbia.....	2	46	55	187	242	193	196	223	229	229
Yukon.....	—	—	3	3	3	3	4	4	4	4
Totals.....	123	747	1,145	3,198	4,676	3,870	3,966	4,059	4,083	3,979

¹Includes sub-agencies for receiving deposits for the banks employing them.

18.—Number and Locations of Branches of Individual Canadian Chartered Banks in Canada and Other Countries as at Dec. 31, 1931.

NOTE.—This table does not include sub-agencies which numbered 643 in 1931, including 3 in "Other Countries".

Bank.	P.E. Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.	Manitoba.
Bank of Montreal.....	1	14	13	127	223	39
Bank of Nova Scotia.....	9	38	37	23	134	8
Bank of Toronto.....	—	—	—	16	108	12
Banque Provinciale du Canada.....	4	—	13	110	14	—
Canadian Bank of Commerce.....	7	19	6	70	317	40
Royal Bank of Canada.....	6	62	22	88	265	70
Dominion Bank.....	—	—	1	8	101	12
Banque Canadienne Nationale.....	—	—	—	232	17	—
Imperial Bank of Canada.....	—	—	—	4	124	—
Barclays Bank (Canada).....	—	—	—	1	1	—
Totals.....	27	133	92	679	1,304	209

Bank.	Saskatchewan.	Alberta.	British Columbia.	Yukon.	Other Count- ries	Total.
Bank of Montreal.....	54	61	56	2	15	60
Bank of Nova Scotia.....	24	11	7	—	39	33
Bank of Toronto.....	33	13	9	—	—	19
Banque Provinciale du Canada.....	—	—	—	—	—	14
Canadian Bank of Commerce.....	97	71	70	2	15	720
Royal Bank of Canada.....	123	72	63	—	104	88
Dominion Bank.....	4	6	4	—	2	13
Banque Canadienne Nationale.....	7	7	—	—	1	27
Imperial Bank of Canada.....	50	25	15	—	—	22
Barclays Bank (Canada).....	—	—	—	—	—	—
Totals.....	372	200	224	4	170	3,500

19.—Number of Branches of each of the Canadian Chartered Banks in Other Countries, with their Locations, Dec. 31, 1931.

Bank and Location.	Branches.	Bank and Location.	Branches.
The Bank of Montreal -		The Canadian Bank of Commerce—conc.	
Newfoundland.....	5	South America.....	1
England.....	2	St. Pierre and Miquelon.....	1
France.....	1	The Royal Bank of Canada—	
United States.....	3	Newfoundland.....	5
Mexico.....	4	England.....	2
The Bank of Nova Scotia—		British West Indies.....	12
Newfoundland.....	12	United States.....	1
England.....	1	Cuba.....	38
British West Indies.....	12	Porto Rico, etc.....	14
United States.....	3	France (auxiliary).....	1
Cuba.....	8	Spain.....	1
Porto Rico, etc.....	3	Central and South America.....	30
The Canadian Bank of Commerce—		The Dominion Bank—	
Newfoundland.....	2	England.....	1
England.....	1	United States.....	1
British West Indies.....	3	Banque Canadienne Nationale—	
United States.....	5	France.....	1
Cuba.....	1		
Mexico.....	1	Total.....	176

Earnings of Canadian Banks.—The chartered banks of Canada are for the most part Dominion-wide institutions, doing business in all parts of the country. Their earnings, therefore, reflect with very considerable faithfulness the fluctuations of general business. So far as individual banks are concerned, indeed, the changes resulting from this era of amalgamations are apt to render the figures incomparable over a period of years. During the six years covered by Table 20, however, the Bank of Nova Scotia, the Bank of Toronto, La Banque Provinciale du Canada, and the Dominion Bank have not been affected by the tendency toward absorptions, and the steady maintenance in the net profits of these banks is excellent evidence of the prosperity of the country. Further, the remarkable increase of the aggregate net profits of Canadian chartered banks to 1929 and the relatively high level maintained since that year reflect the business activity of Canada.

20.—Net Profits of Canadian Banks and Rates of Dividend Paid, for their business years ended 1926-31.

Bank.	1926.		1927.		1928.	
	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.
	\$	p. c.	\$	p. c.	\$	p. c.
Bank of Montreal.....	4,978,133	12+2	5,299,887	12+2	5,847,327	12+2
Bank of Nova Scotia.....	2,243,243	16	2,365,320	16	2,635,519	16
Bank of Toronto.....	1,108,692	12	1,165,432	12+1	1,264,971	12+1
Banque Provinciale du Canada.....	454,123	9	508,608	9	534,248	9
Canadian Bank of Commerce.....	3,636,983	12+1	3,726,910	12+1	3,964,482	12+1
Royal Bank of Canada.....	4,516,239	12+2	5,370,146	12+2	5,881,254	12+2
Dominion Bank.....	1,259,277	12+1	1,328,496	12+1	1,408,088	12+1
Standard Bank of Canada ¹	773,823	12	821,886	12	917,658	12
Banque Canadienne Nationale ²	860,660	10	903,201	10	946,065	10
Imperial Bank of Canada.....	1,265,776	12+1	1,383,282	12+1	1,459,472	12+1
Levyburn Security Bank ³	37,001	5	64,986	7	54,387	7
Barclays Bank (Canada).....	-	-	-	-	-	-
Totals, Net Profits.....	21,133,950	-	22,938,154	-	24,813,471	-

For footnotes see end of table, p. 778.

20.—Net Profits of Canadian Banks and Rates of Dividend Paid, for their businesses years ended 1926-31—concluded.

Bank.	1929.		1930.		1931.	
	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.	Net Profits.	Dividend Rate.
	\$	p.c.	\$	p.c.	\$	p.c.
Bank of Montreal.....	7,070,892	12+2	6,519,031	12+2	5,386,380	12
Bank of Nova Scotia.....	2,761,117	16	2,535,643	16	2,579,802	16
Bank of Toronto.....	1,453,436	12+1	1,339,872	12+1	1,168,915	12
Banque Provinciale du Canada.....	551,022	9	511,457	9	467,440	9
Canadian Bank of Commerce.....	5,066,229	12+1	5,378,423	12+1	4,774,923	12
Royal Bank of Canada.....	7,145,137	12+2	6,572,627	12+2	5,468,327	12
Dominion Bank.....	1,522,809	12+1	1,409,747	12+1	1,322,287	12
Standard Bank of Canada ¹	—	—	—	—	—	—
Banque Canadienne Nationale ²	1,053,100	10	1,024,702	10	1,001,940	10
Imperial Bank of Canada.....	1,561,562	12+1	1,424,081	12+1	1,328,864	12
Weyburn Security Bank ³	38,147	7	—	—	—	—
Barclays Bank (Canada).....	—	—	—	—	—	—
Totals, Net Profits.....	28,223,451	—	26,715,583	—	23,478,878	—

¹Absorbed by the Canadian Bank of Commerce Nov. 3, 1928.

²Formerly Banque d'Hochelaga (absorbed the Banque Nationale April 30, 1924); name changed in 1925.

³Absorbed by Imperial Bank of Canada May 1, 1931.

In Tables 21 and 22 will be found statistics showing the positions of the individual chartered banks on Dec. 31, 1931.

21.—Principal and Total Assets of each of the Chartered Banks of Canada, Dec. 31, 1931.

Bank.	Current Gold and Subsidiary Coin.	Dominion Notes.	Deposit in Central Gold Reserves.	United States and other Foreign Currencies.	Due from other Banks.
	\$	\$	\$	\$	\$
Bank of Montreal.....	27,716,943	48,254,464	5,000,000	349,184	58,811,277
Bank of Nova Scotia.....	9,245,968	13,536,015	2,000,000	1,479,051	16,179,811
Bank of Toronto.....	376,091	9,783,840	1,630,866	22,940	7,067,229
Banque Provinciale du Canada.....	249,694	396,930	200,000	16,817	4,056,223
Canadian Bank of Commerce.....	12,966,930	20,274,475	8,000,000	1,204,975	38,981,499
Royal Bank of Canada.....	12,899,212	21,852,643	2,500,000	11,528,327	74,009,163
Dominion Bank.....	1,018,693	9,367,640	1,000,000	42,360	9,598,988
Banque Canadienne Nationale.....	903,720	1,293,046	2,700,000	67,636	6,617,977
Imperial Bank of Canada.....	427,627	4,066,965	2,700,866	23,756	10,408,377
Barclays Bank (Canada).....	11,908	40,529	—	1,136	2,088,777
Totals.....	65,816,786	128,860,547	25,731,732	14,736,182	227,819,277

Bank.	Securities.	Loans and Discounts.			Total Assets. ²
		Call Loans in Canada.	Current Loans in Canada. ¹	Call and Current Loans outside of Canada.	
	\$	\$	\$	\$	\$
Bank of Montreal.....	231,059,810	6,529,969	306,258,801	45,376,434	761,156,922
Bank of Nova Scotia.....	63,182,425	13,314,708	107,730,120	19,275,122	262,731,900
Bank of Toronto.....	34,517,699	5,777,736	56,234,242	—	120,791,922
Banque Provinciale du Canada.....	17,934,533	6,371,841	19,838,088	—	52,795,822
Canadian Bank of Commerce.....	137,283,542	34,344,764	250,090,117	50,392,642	592,512,778
Royal Bank of Canada.....	116,564,096	37,813,823	293,361,352	153,510,574	782,583,855
Dominion Bank.....	26,353,674	13,011,678	61,248,986	2,826,443	132,875,077
Banque Canadienne Nationale.....	37,492,184	9,116,901	83,139,553	100,114	150,205,822
Imperial Bank of Canada.....	28,987,053	8,351,437	73,457,457	—	136,917,689
Barclays Bank (Canada).....	657,662	98,100	1,985,821	—	5,100,989
Totals.....	694,032,678	134,730,957	1,253,344,537	271,481,329	2,997,672,799

¹Includes loans to the Dominion Government, to Provincial Governments and to cities, towns, municipalities and school districts. ²Includes other assets.

**22.—Principal and Total Liabilities of each of the Chartered Banks of Canada,
Dec. 31, 1931.**

Bank.	Capital (paid up).	Reserve Fund.	Notes in Circulation.	Due to Dominion and to Provincial Governments.	Letters of Credit Outstanding.
	\$	\$	\$	\$	\$
Bank of Montreal.....	36,000,000	38,000,000	35,470,663	28,824,173	9,148,485
Bank of Nova Scotia.....	12,000,000	24,000,000	12,702,832	12,759,826	4,606,871
Bank of Toronto.....	6,000,000	9,000,000	6,408,134	4,469,932	1,009,698
Bank Provinciale du Canada.....	4,000,000	1,500,000	3,986,821	4,194,550	14,646
Bank of Commerce.....	30,000,000	30,000,000	25,446,890	28,427,721	11,383,475
Bank of Canada.....	35,000,000	35,000,000	32,235,770	23,481,780	26,586,184
Bank of Dominion.....	7,000,000	9,000,000	6,262,303	8,724,089	1,622,126
Bank Canadienne Nationale.....	7,000,000	7,000,000	10,019,089	8,710,861	358,261
Bank of Canada.....	7,000,000	8,000,000	8,214,905	11,126,530	544,630
Bank of Canada.....	500,000	500,000	265,975	166,357	199,037
Totals.....	144,500,000	162,000,000	141,013,382	130,885,819	55,473,413

Bank.	Deposits.			Due to Other Banks.	Total Liabilities. ¹
	Demand in Canada.	Notice in Canada.	Outside of Canada.		
	\$	\$	\$	\$	\$
Bank of Montreal.....	147,660,735	379,485,551	69,578,123	11,844,974	758,040,905
Bank of Nova Scotia.....	33,807,358	125,017,573	31,862,200	4,301,436	261,936,821
Bank of Toronto.....	26,018,870	65,260,243	—	1,554,061	119,880,714
Bank Provinciale du Canada.....	5,003,666	33,489,612	—	27,129	52,272,835
Bank of Commerce.....	121,933,028	274,230,249	46,474,462	15,311,974	590,288,231
Bank of Canada.....	153,454,802	263,589,250	158,422,729	16,656,297	777,613,768
Bank of Dominion.....	30,667,257	63,674,835	2,382,912	2,498,451	132,409,869
Bank Canadienne Nationale.....	19,210,580	84,783,143	1,365,888	1,742,786	149,696,044
Bank of Canada.....	28,031,073	69,618,883	—	2,820,034	135,357,088
Bank of Canada.....	797,196	892,790	—	1,800,031	5,121,389
Totals.....	566,584,565	1,360,042,129	310,086,314	58,557,173	2,982,617,664

¹Includes other liabilities.

Bank Amalgamations and Insolvencies.—Two tables are appended which may be of interest to students of Canadian banking history. The first, showing bank insolvencies since 1867, gives the capital paid up, reserves, assets and liabilities of insolvent banks, and shows also the payments to noteholders and depositors. In the majority of cases, both these classes of creditors have received payment in full. The table of bank absorptions gives the dates of absorption of the 35 banks which were incorporated with other institutions between 1867 and 1931.

23.—Canadian Bank Insolvencies since 1867.

Name.	Date of Suspension.	Paid- up Capital.	Reserve Fund.	Liabili- ties.	Assets.	Paid to—	
						Note- holders.	Depos- itors.
		\$	\$	\$	\$	p.c.	p.c.
Commercial Bank of N.B....	— 1868	600,000	—	671,420	1,222,454	100	100
Bank of Acadia.....	April, 1873	100,000	—	106,914	213,346	—	—
Metropolitan Bank.....	Oct. 1876	800,170	—	293,379	779,225	100	100
Mechanics' Bank.....	May, 1879	194,794	—	547,238	721,155	57½	57½
Bank of Liverpool.....	Oct., 1879	370,548	—	136,480	207,877	100	96½
Consolidated Bank of Canada.....	Aug., 1879	2,080,920	—	1,794,249	3,077,202	100	100
Adams Bank.....	July, 1879	991,890	—	341,500	1,355,675	100	100
Bank of Prince Ed. Island....	Nov 23, 1881	120,000	45,000	1,108,000	953,244	59½	59½

For footnote see end of table, p. 780.

23.—Canadian Bank Insolvencies since 1867—concluded.

Name.	Date of Suspension.	Paid-up Capital.	Reserve Fund.	Liabilities.	Assets.	Paid to—	
						Note-holders.	Depositors.
		\$	\$	\$	\$	p.c.	p.c.
Exchange Bank of Canada....	Sept., 1883	500,000	300,000	2,868,884	3,779,493	100	6
Maritime Bank of Dom. of Canada.....	Mar., 1887	321,900	60,000	1,409,452	1,825,993	100	10
Pictou Bank.....	Sept., 1887	200,000	—	74,364	277,017	100	100
Bank of London in Canada.....	Aug., 1887	241,101	50,000	1,031,280	1,310,675	100	100
Central Bank of Canada.....	Nov., 1887	500,000	45,000	2,631,378	3,231,518	100	4
Federal Bank.....	Jan., 1888	1,250,000	150,000	3,449,499	4,869,113	100	100
Commercial Bank of Manitoba.....	June 30, 1893	552,650	50,000	1,341,251	1,951,151	100	100
Banque du Peuple.....	July 15, 1895	1,200,000	600,000	7,761,209	9,533,537	100	76
Banque Ville-Marie.....	July 25, 1899	479,620	10,000	1,766,841	2,267,516	100	17
Bank of Yarmouth.....	Mar. 6, 1905	300,000	35,000	388,660	723,660	100	100
Ontario Bank ²	Oct. 13, 1906	1,500,000	700,000	15,272,271	15,920,307	100	100
Sovereign Bank of Canada ³	Jan. 18, 1908	3,000,000	—	16,174,408	19,218,746	100	100
Banque de St. Jean.....	April 28, 1908	316,386	10,000	560,781	326,118	100	30
Banque de St. Hyacinthe.....	Jan. 24, 1908	331,235	75,000	1,172,680	1,576,443	100	100
St. Stephen's Bank.....	Mar. 10, 1910	200,000	55,000	549,830	818,271	100	100
Farmers' Bank.....	Dec. 19, 1910	567,579	—	1,997,041	2,616,683	100	Nil
Bank of Vancouver.....	Dec. 14, 1914	445,188	—	912,137	1,532,786	100	2
Home Bank of Canada.....	Aug. 17, 1923	1,960,591	550,000	19,678,747	27,434,709	100	2

¹This bank was only in existence for 3 months and 26 days. Some of its notes were redeemed on its re-opening for a few days. The Dominion Government received 25 cents on the dollar on several thousand dollars worth of the notes which it held. ²Liquidation incomplete. ³These banks never suspended payment. Their branches were taken over by other banks which assumed all liabilities to depositors. Some years later, for technical purposes, these banks were put into insolvency.

24.—Bank Absorptions in Canada since 1867.¹

Purchasing Bank.	Bank Absorbed.	Date. ²
Bank of Montreal.....	Exchange Bank, Yarmouth, N.S.....	Aug. 13, 1906
	People's Bank of Halifax, N.S.....	June 27, 1906
	Ontario Bank.....	Oct. 13, 1906
	Bank of New Brunswick.....	April 15, 1906
	Bank of British North America.....	Oct. 12, 1906
Canadian Bank of Commerce.....	Merchants' Bank of Canada.....	Mar. 20, 1906
	Molsons' Bank.....	Jan. 20, 1906
	Gore Bank.....	May 19, 1878
	Bank of British Columbia.....	Dec. 31, 1906
	Halifax Banking Co.....	May 30, 1906
	Merchants' Bank of P.E.I.....	May 31, 1906
	Eastern Townships' Bank.....	Feb. 29, 1906
	Bank of Hamilton.....	Dec. 31, 1906
	Standard Bank of Canada.....	Nov. 3, 1906
	Union Bank of P.E.I.....	Oct. 1, 1888
Bank of Nova Scotia.....	Bank of New Brunswick.....	Feb. 15, 1906
	The Metropolitan Bank.....	Nov. 14, 1906
	The Bank of Ottawa.....	April 30, 1906
Royal Bank of Canada.....	Union Bank of Halifax.....	Nov. 1, 1906
	Traders' Bank of Canada.....	Sept. 3, 1906
	Quebec Bank.....	Jan. 2, 1906
	Northern Crown Bank.....	July 2, 1906
Imperial Bank of Canada.....	Union Bank of Canada.....	Aug. 31, 1906
	Niagara District Bank.....	June 21, 1878
Banque d'Hochelaga ³	The Weyburn Security Bank.....	May 1, 1906
	Banque Nationale.....	April 30, 1906
Bank of New Brunswick.....	Summerside Bank.....	Sept. 12, 1906
Merchants' Bank of Canada.....	Merchants' Bank.....	Feb. 22, 1878
Union Bank of Halifax.....	Commercial Bank of Canada.....	June 1, 1888
Northern Crown Bank.....	Commercial Bank of Windsor.....	Oct. 31, 1906
	The Northern Bank.....	July 2, 1906
	Crown Bank of Canada.....	July 2, 1906
Union Bank of Canada.....	United Empire Bank.....	Mar. 31, 1906
Home Bank of Canada.....	La Banque Internationale du Canada.....	April 15, 1906
Standard Bank of Canada.....	Western Bank of Canada.....	Feb. 13, 1906
	Sterling Bank of Canada.....	Dec. 31, 1906

¹ The purchasing banks named in the latter part of the table are no longer in business.

² Dates given since 1900 are those of the Orders in Council authorizing the absorptions.

³ The Banque d'Hochelaga after absorbing the Bank Nationale adopted the name Banque Canadienne Nationale.

Subsection 3.—The Volume of Business Transacted through the Banks.

In advanced industrial societies money is only "the small change of commerce". The great bulk of monetary transfers, particularly in the case of the larger transactions, is made through the banks. Thus it has been estimated that in the United States in 1917 about 6 p.c. of the business transactions of the country were financed by the use of money and the remaining 94 p.c. by the use of cheques. Accordingly, if we knew the aggregate amount of the cheques paid through the banks and charged to accounts, we should have an almost complete record of the volume of business transacted, and thus of the business activity of the country.

Statistics of this character were at first secured through the operation of the clearing houses—places where the representatives of all the banks met daily in the leading cities and presented for payment the notes of other banks and the cheques drawn upon other banks that had been paid into their institutions in the regular course of business. In Canada, the first clearing houses to be established were those of Halifax (1887), Montreal (1889), Toronto (1891), Hamilton (1891) and Winnipeg (1893), and the number has subsequently increased to 32. Statistics showing the annual aggregates of the transactions at each clearing house were published in the Canada Year Book as early as the 1893 edition (p. 524), while current monthly and weekly figures are given in the daily and financial press. In recent years, owing to the reduction in the number of the banks through amalgamations, the proportion of the inter-bank transactions recorded by the clearing houses to the grand total of banking transactions has declined, and the place of total bank clearings as a measure of business has been taken by total bank debits—*i.e.*, the totals of cheques charged to accounts at all banks. The total bank debits at all branch banks situated in the clearing-house cities of Canada have been compiled for 1924 and subsequent years by the Canadian Bankers' Association for the Dominion Bureau of Statistics, which has published the figures monthly and annually with interpretative analyses. Further, in order that an estimate might be made of the proportion of banking transactions outside the clearing-house cities to the total, the Canadian Bankers' Association secured for the month of January, 1929, the grand total of all cheques charged to accounts at all branch banks throughout the Dominion. The results were published in the Bureau's Monthly Review of Bank Debits for February, 1929, and showed that the aggregate of transactions outside the clearing-house cities was in January, 1929, 14½ p.c. of the grand total in the clearing-house cities. The corresponding figures in the five economic areas were as follows: Maritime Provinces 90.6 p.c., Quebec 6.1 p.c., Ontario 17.2 p.c., Prairie Provinces 8.6 p.c., British Columbia 14.3 p.c. It would thus appear that only in the Maritime Provinces does the total of bank debits in clearing-house cities inadequately represent the grand total of business transactions throughout the whole area.

Clearing-House Transactions.—The appended table shows for the years 1927 to 1931 the total volume of clearings in the clearing houses of Canada. These figures, it may be added, represent not only actual city clearings but exchanges between numerous rural branches of the banks in each district.

25.—Amount of Exchanges of the Clearing Houses of Chartered Banks in Canada for the calendar years 1927-31.

Clearing House.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Brandon.....	31,888,238	38,724,824	35,403,096	28,763,171	21,015,590
Brantford.....	63,699,310	72,529,308	76,801,737	58,564,628	48,891,617
Calgary.....	436,380,347	666,517,374	697,716,733	451,673,700	319,987,617
Chatham.....	40,639,402	43,568,049	41,712,000	32,815,670	27,388,795
Edmonton.....	286,632,841	351,325,045	358,961,724	293,550,893	237,843,012
Fort William.....	51,979,079	59,588,926	54,159,627	43,543,156	34,553,840
Halifax.....	160,582,907	185,678,418	197,539,723	174,720,962	150,986,615
Hamilton.....	296,401,045	337,852,407	350,828,242	310,976,401	247,414,617
Kingston.....	43,841,462	46,174,085	46,688,914	44,029,362	35,357,253
Kitchener.....	60,999,516	66,254,228	71,569,948	63,410,494	52,182,395
Lethbridge.....	31,865,310	40,774,009	38,164,110	29,064,557	20,849,302
London.....	167,784,864	180,871,281	183,917,716	168,047,076	145,511,232
Medicine Hat.....	18,017,757	26,616,621	26,445,424	17,303,187	12,319,712
Moncton.....	45,999,129	49,385,815	53,623,924	51,039,289	38,911,633
Montreal.....	6,771,872,658	8,072,843,473	8,279,414,820	6,917,957,798	5,773,473,072
Moose Jaw.....	69,893,412	73,000,603	72,493,575	59,359,874	37,751,185
New Westminster.....	41,565,488	44,775,067	50,789,127	43,641,522	30,103,730
Ottawa.....	374,560,769	431,183,370	443,895,304	372,586,750	323,349,845
Peterborough.....	46,265,622	48,837,555	51,283,226	47,113,834	38,026,819
Prince Albert.....	21,205,563	25,131,852	27,389,869	22,887,338	19,749,381
Quebec.....	349,324,254	361,754,089	375,097,842	339,596,344	285,294,714
Regina.....	259,731,291	312,089,797	337,388,121	252,351,215	192,876,885
Saint John.....	134,755,457	150,715,381	152,472,005	124,224,187	115,510,905
Sarnia.....	35,507,682	37,865,490	45,109,018	36,465,041	25,489,713
Saskatoon.....	111,929,059	138,687,497	146,354,851	117,775,186	89,784,777
Sherbrooke.....	47,348,680	50,673,178	54,664,846	45,958,551	37,092,630
Sudbury.....	—	—	27,208,321	57,927,754	36,319,001
Toronto.....	6,484,986,731	7,674,864,018	7,721,761,164	6,036,838,536	5,134,895,410
Vancouver.....	924,784,859	1,109,375,640	1,243,625,052	994,131,725	795,227,620
Victoria.....	119,552,545	134,095,845	151,226,015	125,397,653	95,261,092
Windsor.....	243,913,678	280,032,888	298,142,566	214,089,007	150,917,402
Winnipeg.....	2,794,528,267	3,443,151,986	3,393,339,677	2,517,469,597	2,253,265,522
Tota's.....	20,568,437,223	24,554,938,119	25,105,188,317	20,091,874,458	16,827,602,913

Bank clearings, though generally regarded as a leading barometer of business conditions, are defective in that they record only inter-bank transactions—transactions through which one bank becomes either the debtor or the creditor of another. They do not record the numerous transactions in which the transfer of value is made within a single bank, as, for example, where the purchaser and the seller of values that are paid for by cheque carry their accounts in the same bank. As the number of separate banks has in recent years been steadily diminishing through amalgamations, there being only 10 in December, 1931, as compared with 18 in 1923, inter-bank transactions are bearing a steadily decreasing proportion to the total of business transacted, a fact which goes far to explain the relative smallness of the increase in bank clearings from 1926 to 1929 and makes the extent of the decrease in 1931, as shown in Table 25, open to question.

Bank Debits.—Since bank clearings have ceased to be a satisfactory measure of general business, the Bureau of Statistics in 1923 took up with the Canadian Bankers' Association the question of securing a record of bank debits, *i.e.*, of all cheques charged against accounts at all banks. The Bankers' Association agreed to secure from January, 1924, the monthly aggregate figures of the amount of cheques charged to accounts at all banking offices situated in the clearing-house cities of Canada, and the figures of cheques charged to accounts (bank debits) are given for the years 1927-1931 in Table 26. The Weyburn Security Bank, which operated in southern Saskatchewan, voluntarily added a total of all cheques charged to accounts at all of its branches.

It will be noted, as establishing the need of the newer record, that bank debits for 1931 decreased 12.5 p.c. as compared with those of 1927, while bank clearings in

The later year show a decrease of 18.2 p.c. The bank debits are a comparable record for the five years; the bank clearings, owing to the reduction in the number of banks, are not a comparable record.

Table 1.—Bank Debits at the Clearing-House Cities of Canada, by Individual Cities, calendar years 1927-31.

Clearing-House Centre.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Maritime Provinces—					
Halifax.....	324,547,737	404,665,405	425,487,760	361,736,685	330,371,553
Moncton.....	84,077,248	91,313,729	99,597,577	101,018,427	87,229,007
Saint John.....	219,119,014	249,488,661	272,872,476	245,595,665	234,942,909
Totals.....	627,744,049	745,467,795	797,957,813	708,350,777	652,543,469
Quebec—					
Montreal.....	11,779,679,473	13,962,318,025	15,558,093,739	12,271,206,394	9,756,753,765
Quebec.....	745,180,824	794,833,137	788,145,269	744,930,005	701,258,405
Sherbrooke.....	119,046,018	155,506,587	137,428,244	120,921,940	92,060,809
Totals.....	12,643,906,315	14,912,657,749	16,483,667,252	13,137,058,339	10,550,072,979
Ontario—					
Brantford.....	120,130,422	143,943,039	166,590,813	126,813,356	106,212,582
Chatham.....	92,586,934	101,383,642	122,271,304	95,460,287	81,403,262
Fort William.....	98,596,600	108,176,187	102,154,515	78,028,739	66,540,124
Hamilton.....	677,127,777	814,420,963	909,896,874	831,837,930	649,599,942
Kingston.....	74,495,420	79,595,640	83,879,278	79,797,075	64,828,365
Kitchener.....	123,259,396	142,995,237	159,265,585	139,515,780	116,857,177
London.....	355,621,944	404,700,773	424,805,150	408,176,670	365,324,602
Ottawa.....	1,922,946,801	2,089,409,008	2,001,694,411	1,904,804,194	1,869,730,944
Peterborough.....	84,632,905	92,760,882	93,245,286	84,634,613	70,964,205
Sarnia.....	103,209,342	120,923,729	146,820,023	124,524,399	104,000,535
Sudbury.....	—	—	34,116,876	87,109,599	58,832,961
Toronto.....	10,536,876,258	12,673,220,316	13,714,209,353	10,654,982,452	9,512,342,450
Windsor.....	452,282,232	541,319,833	594,318,762	428,655,192	310,203,205
Totals.....	14,641,811,031	17,312,849,249	18,543,268,230	15,044,340,286	13,376,840,354
Prairie Provinces—					
Brandon.....	51,370,740	61,324,007	62,315,237	50,605,166	39,802,614
Calgary.....	734,173,249	1,096,733,543	1,253,618,912	898,426,300	647,871,720
Edmonton.....	437,356,863	546,841,716	603,871,484	570,301,889	489,783,798
Lethbridge.....	64,105,290	89,863,419	97,220,371	73,734,543	49,736,330
Medicine Hat.....	40,757,696	56,953,944	54,258,545	37,887,826	26,122,436
Moose Jaw.....	109,425,240	119,937,245	128,436,189	112,897,357	79,343,948
Prince Albert.....	31,358,667	35,799,271	39,150,683	32,683,118	29,802,029
Regina.....	441,328,792	552,941,674	630,264,345	570,766,671	412,701,024
Saskatoon.....	160,732,823	203,264,797	224,155,812	194,543,418	143,056,796
Winnipeg.....	4,004,980,180	5,187,680,266	4,788,952,527	3,712,135,033	3,279,817,622
Branches of the Weyburn Security Bank.....	51,396,596	55,372,926	40,562,191	25,099,552	3,173,413 ¹
Totals.....	6,126,986,036	8,006,712,808	7,922,806,296	6,279,080,873	5,201,211,730
British Columbia—					
New Westminster.....	82,663,727	92,705,331	105,357,294	93,831,458	67,987,301
Vancouver.....	1,595,939,598	1,984,485,771	2,365,678,383	1,812,724,948	1,416,428,661
Victoria.....	374,452,342	422,080,397	451,746,570	415,915,085	321,383,768
Totals.....	2,053,055,667	2,499,271,499	2,922,782,247	2,322,471,491	1,805,799,730
Grand Total's.....	36,093,503,098	43,476,959,100	46,670,481,838	37,491,301,766	31,586,468,262

¹ Three months only.

Subsection 4.—Government and other Savings Banks.

In a comparatively new country where capital is relatively scarce, it is a natural thing that the banks which finance the business institutions should also absorb the bulk of the people's savings for use in promoting the business of the country. Thus in Canada the great bulk of the current savings of the people is found in the savings and notice deposits of the Canadian chartered banks, the annual average figures of which are given for recent years in Table 10 of this chapter, the 1931 average being

\$1,437,976,749. Further, the current savings of the Canadian people are going very largely into the purchase of life insurance, the total premiums paid in the single year 1930 aggregating \$220,529,911. In comparison with the enormous figures of notice deposits in chartered banks and with total insurance in force, the deposits in the special savings banks are comparatively small, but are none the less significant.

There are three distinct types of savings banks in Canada at the present time in addition to the savings divisions of the chartered banks and of trust and loan companies. First, there is the Post Office Savings Bank, the deposits in which are a direct obligation of the Dominion Government. Secondly, there are Provincial Government savings banking institutions operating in Ontario and in Alberta, where the depositor becomes a direct creditor of the province. Thirdly, there are in the province of Quebec two important savings banks, the Montreal City and District Savings Bank and the Caisse d'Economie de Notre-Dame de Québec, established under Dominion legislation and making monthly reports to the Department of Finance.

Dominion Government Savings Banks.—Prior to 1929 there were two classes of Dominion Government savings banks in Canada, the Post Office Savings Bank, under the Post Office Department, and the Dominion Government Savings Bank, attached to the Department of Finance. The former was established under the Post Office Act of 1867 (31 Vict., c. 10) in order "to enlarge the facilities now available for the deposit of small savings, to make the Post Office available for that purpose, and to give the direct security of the Dominion to every depositor for repayment of all money deposited by him together with the interest due thereon". Branches of the Government Savings Bank proper, under the authority of the Finance Department, were established in the leading cities of Canada under the management of the Assistant Receivers-General, and in other places in the provinces of Nova Scotia and New Brunswick, under managers appointed by the Governor in Council. The Government Savings Bank was amalgamated with the Post Office Savings Bank in 1929. Historical statistics for both systems will be found in Table 27 and more detailed figures covering the last six years in Table 28.

27.—Deposits with Government Savings Banks,¹ June 30, 1868-1906, and Mar. 31, 1907-31.

NOTE.—Figures for all intermediate years will be found on p. 833 of the 1926 Year Book.

Year.	Postal Savings Bank.	Dominion Government Savings Bank.	Year.	Postal Savings Bank.	Dominion Government Savings Bank.
	\$	\$		\$	\$
1868.....	204,589	1,483,219	1914.....	41,591,286	13,976,16
1870.....	1,588,849	1,822,570	1915.....	39,995,406	14,006,16
1875.....	2,926,090	4,245,091	1916.....	40,008,418	13,519,85
1880.....	3,945,669	7,107,287	1917.....	42,582,479	13,633,6
1885.....	15,090,540	17,888,536	1918.....	41,283,479	12,177,23
1890.....	21,990,653	19,021,812	1919.....	41,654,960	11,402,09
1895.....	26,805,542	17,644,956	1920.....	31,605,594	10,729,21
1900.....	37,507,456	15,642,267	1921.....	29,010,619	10,150,18
1905.....	45,368,321	16,649,136	1922.....	24,837,181	9,829,65
1906.....	45,736,488	16,174,134	1923.....	22,357,268	9,433,83
1907.....	47,453,228	15,088,584	1924.....	25,156,449	9,055,09
1908.....	47,564,284	15,016,871	1925.....	24,662,060	8,949,07
1909.....	45,190,454	14,748,436	1926.....	24,035,669	8,794,87
1910.....	43,586,357	14,677,872	1927.....	23,402,337	8,519,70
1911.....	43,330,579	14,673,752	1928.....	23,463,210	7,640,56
1912.....	43,563,764	14,655,564	1929.....	28,375,770	2
1913.....	42,728,942	14,411,541	1930.....	26,086,036	2
			1931.....	24,750,227	2

¹ Do not include Provincial Government savings banks.

² Included in Post Office Savings Bank.

—Total Combined Financial Business of Post Office and Dominion Government Savings Banks, Mar. 31, 1926-31.

Item.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Deposits during year.....	4,572,110	4,117,623	4,084,555	2,910,147	2,746,050	2,535,563
Interest on deposits.....	962,745	928,822	908,608	842,025	784,582	732,733
Total cash and interest.....	5,534,854	5,046,445	4,993,163	3,752,172	3,530,632	3,268,296
Withdrawals.....	6,315,444	5,959,275	6,449,036	4,519,507	5,820,366	4,604,105
Credit of depositors.....	32,830,539	31,922,281	31,104,015	28,375,770	26,086,036	24,750,227

Provincial Government Savings Banks.—Ontario.—In the session of 1921, the Legislature of Ontario authorized the establishment of the Province of Ontario Savings Office, and in March, 1922, the first branches were opened. The funds received from this source are used almost exclusively to finance farm loans under the Agricultural Development Act. Interest at the rate of 3 p.c. per annum compounded half yearly is paid on all accounts. The deposits are all repayable on demand. Total deposits on Oct. 31, 1931, were \$27,000,000 and the number of depositors at that date was over 80,000. Seventeen branches are in operation throughout the province.

Manitoba.—A system somewhat similar to the Ontario system is in operation in Manitoba, where 7 savings offices of the province had on Dec. 31, 1931, 42,528 deposit accounts with deposits aggregating \$13,301,698. These offices were discontinued in February, 1932.

Alberta.—In Alberta the provincial Treasury receives savings deposits and issues savings certificates bearing interest at 4 p.c. The total amount in savings certificates was \$10,976,070 on Mar. 31, 1931.

Other Savings Banks.—The Montreal City and District Savings Bank, founded in 1846 and now operating under a charter of 1871, had on Dec. 31, 1931, paid-up capital of \$2,000,000, savings deposits of \$55,752,350, and total liabilities of \$59,437,950. Total assets amounted to \$63,965,080 including over \$45,000,000 of Dominion, provincial and municipal securities. The Caisse d'Economie de Notre-Dame de Québec, founded in 1848 under the auspices of the St. Vincent de Paul Society, incorporated by Act of the Canadian Legislature in 1855 and given a Dominion charter by 34 Victoria, c. 7, had on Dec. 31, 1931, savings deposits of \$12,503,870, a paid-up capital of \$1,000,000 and total assets of \$16,33,228.

The co-operative people's banks of Quebec (179 reported to the Provincial Government in 1930) are also an important element in promoting thrift and assisting business in that province. Thus on Dec. 31, 1930, savings deposits in these banks amounted to \$7,750,876, while the amount on loan was \$10,142,576. Loans granted in 1930 numbered 18,857 amounting to \$3,724,537. Profits realized amounted to \$645,096. (See p. 666).

29.—Deposits in the Montreal City and District Bank and the Caisse d'Economie de Notre-Dame de Québec, as at June 30, 1868-1906, and Mar. 31, 1907-31.

NOTE.—Figures for all intermediate years will be found on p. 833 of the 1926 Year Book.

Year.	\$	Year.	\$	Year.	\$
1868.....	3,369,799	1908.....	28,927,248	1920.....	53,118,177
1870.....	5,369,103	1909.....	29,867,973	1921.....	58,576,772
1875.....	6,611,416	1910.....	32,239,620	1922.....	58,292,122
1880.....	6,681,025	1911.....	34,770,386	1923.....	59,327,965
1885.....	9,191,895	1912.....	39,526,755	1924.....	64,245,811
1890.....	10,908,987	1913.....	40,133,351	1925.....	65,837,357
1895.....	13,128,483	1914.....	39,110,439	1926.....	67,241,341
1900.....	17,425,472	1915.....	37,817,474	1927.....	69,940,354
1905.....	25,050,966	1916.....	40,405,037	1928.....	72,695,122
1906.....	27,399,194	1917.....	44,139,978	1929.....	70,809,100
1907.....	28,359,618	1918.....	42,000,543	1930.....	68,846,366
		1919.....	46,799,877	1931.....	69,820,322

Section 3.—Loan and Trust Companies.

Business such as that now transacted by loan and trust companies was first carried on by an incorporated Canadian company in 1844, when the Lambton Loan and Investment Co. was established, while the Montreal Building Society was incorporated by c. 94 of the Statutes of 1845. In order to legalize and encourage such operations in Upper Canada, an Act was passed by the Canadian Legislature in 1846, followed in 1847 and 1849 by Acts in New Brunswick and Nova Scotia respectively. These early companies were termed building societies; their activities comprised mainly the lending of money on the security of real estate and also the lending of money to members without their being liable to the contingency of losses or profits in the business of the society. In addition to these operations, such companies were authorized by an Act of 1859 to "borrow money to a limited extent". Later, by the Building Societies Act of 1874, authority was given to receive money on deposit and to issue debentures, subject to certain restrictions as to amounts of deposits.

The number of loan and savings societies in operation and making returns to the Government at Confederation was 19, with an aggregate paid-up capital of \$2,110,403 and deposits of \$577,299. Rapid increases in the number of companies and total volume of business resulted from subsequent legislation until in 1891 102 companies (including trust companies) made returns, showing capital stock paid up of \$47,337,544, reserve funds of \$9,923,728 and deposits of \$19,466,676; total liabilities had increased from \$3,233,985 to \$148,143,496 between 1867 and 1891. By 1913 the number of companies had declined, through amalgamations and absorptions, to 74 (including 16 trust companies) with a combined paid-up capital of \$68,091,042, reserves of \$35,959,342, deposits of \$32,681,806 and total liabilities of \$478,658,228.

The laws relating to trust and loan companies were revised by the Loan and Trust Companies Acts of 1914 (4-5 Geo. V, cc. 40 and 55), with the result that the statistics of provincially incorporated loan and trust companies ceased to be collected. The statistics of Tables 31 and 32 refer only to those companies operating under Dominion charter, except that beginning in 1926 the statistics of loan companies and trust companies incorporated by the province of Nova Scotia, as brought by the laws of that province under the examination of the Dominion Department of Insurance, have been included. Also, since 1922 provincially incorporated loan and trust companies make voluntary returns of their principal statistics to the Dominion Department of Insurance, so that all-Canadian totals are

again available for recent years. As indicating the progress of the aggregate of loan company business in Canada, it may be stated that the book value of the assets of all loan companies rose from \$188,637,298 in 1922 to \$205,961,538 in 1930. The total assets in the hands of the trust companies increased from \$805,689,070 in 1922 to \$2,327,556,636 in 1930. The latter figure included \$2,077,445,861 of "estates, trusts and agency funds". (Table 30.)

Functions of Loan Companies.—The principal function of loan companies is the lending of funds on first mortgage security, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. Of the loan companies operating under provincial charters, the majority conduct loan, savings and mortgage businesses, generally in the more prosperous farming communities.

Functions of Trust Companies.—Trust companies, it may be added, act as executors, trustees and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minor or incapable persons, as financial agents for municipalities and companies, and, where so appointed, as authorized trustees in bankruptcy. Some companies receive deposits, but the lending of actual trust funds is restricted by law. The figures of Table 30 are of particular interest in the case of trust companies, which, on account of the nature of their transactions, are peculiarly provincial institutions, since their chief duties are intimately connected with the matter of probate, which lies within the sole jurisdiction of the provinces.

30.—Summary Statistics of the Operations of Dominion and Provincial Loan and Trust Companies in Canada, 1930.

LOAN COMPANIES.

Item.	Provincial Companies.	Dominion Companies.	Total.
	\$	\$	\$
Book value of assets.....	62,652,764	143,308,774	205,961,538
Liabilities to the public.....	30,677,518	106,378,655	137,056,173
Capital Stock—			
Authorized.....	40,012,000	64,650,000	104,662,000
Subscribed.....	17,510,937	28,427,500	45,938,427
Paid up.....	16,109,294	20,475,116	36,584,410
Reserve and contingency funds.....	12,846,042	14,632,128	27,478,170
Other liabilities to shareholders.....	1,156,690	377,264	1,533,954
Total liabilities to shareholders.....	30,112,026	35,799,585	65,911,611
Net profit realized during year.....	1,519,986	2,213,903	3,733,889

TRUST COMPANIES.

Assets—			
Company funds.....	71,176,486	14,952,283	86,128,769
Guaranteed funds.....	137,573,177	26,408,829	163,982,006
Estates, trusts and agency funds.....	1,872,163,268	205,282,593	2,077,445,861
Totals.....	2,080,912,931	246,643,705	2,327,556,636
Capital Stock—			
Authorized.....	72,455,000	22,650,000	95,105,000
Subscribed.....	33,095,448	11,694,540	44,789,988
Paid up.....	27,712,896	10,260,025	37,972,921
Reserve and contingency funds.....	21,686,577	3,431,537	25,118,114
Inappropriated surplus.....	2,519,178	610,564	3,129,742
Net profit realized during year.....	4,268,217	720,167	4,988,384

31.—Liabilities and Assets of Loan Companies Chartered by the Dominion Government, 1914-30.

LIABILITIES.

Year.	Liabilities to Shareholders.			Liabilities to the Public.				
	Capital Paid up.	Reserve Funds.	Total. ¹	Debentures and Debenture Stock.		Deposits.	Interest Due and Accrued.	Total. ²
				Canada.	Elsewhere and Sundries.			
\$	\$	\$	\$	\$	\$	\$	\$	
1914.....	19,238,512	9,374,363	29,375,689	6,688,124	26,101,702	8,104,072	318,504	41,212,402
1915.....	19,401,856	9,878,266	30,155,708	6,764,836	25,538,301	9,193,194	340,627	41,836,953
1916.....	19,673,934	10,319,176	29,993,110	6,889,946	24,653,657	8,987,720	347,864	40,879,187
1917.....	19,813,217	10,705,215	30,518,432	7,075,081	22,430,846	8,934,825	351,420	38,792,172
1918.....	19,945,859	10,938,193	30,884,051	7,442,982	23,501,565	7,802,539	364,087	39,111,173
1919.....	20,191,612	11,923,234	32,114,846	—	—	9,347,096	—	42,405,175
1920.....	24,062,521	13,442,364	39,110,640	16,982,032	18,451,054	15,257,840	—	51,302,620
1921.....	25,750,966	14,278,619	40,629,689	17,682,083	20,265,766	15,868,926	480,547	54,651,433
1922.....	25,241,600	14,740,834	40,013,363	20,360,480	22,390,990	16,910,558	499,661	60,386,903
1923.....	24,939,622	14,879,516	41,239,712	22,667,861	24,315,010	15,854,029	577,460	63,600,093
1924.....	22,592,057	13,734,681	37,122,138	25,426,434	21,901,431	15,970,077	543,131	63,989,554
1925 ⁵	23,632,474	14,555,603	38,461,375	30,052,139	21,600,001	18,660,122	538,755	71,066,398
1926 ⁵	23,498,336	14,861,280	38,977,937	36,613,088	21,572,810	21,316,150	663,987	80,447,480
1927 ⁵	20,699,710	14,867,432	38,596,121	47,818,386	19,955,321	27,019,323	868,694	95,895,897
1928 ⁵	20,139,831	14,113,871	36,179,771	51,269,133	15,292,362	30,671,257	940,528	98,453,583
1929 ⁵	20,292,840	14,438,022	35,806,640	52,857,277	14,813,287	29,602,789	942,178	98,847,526
1930 ⁵	20,475,116	14,632,128	35,799,585	58,058,682	15,063,313	31,581,913	978,891	106,378,655

ASSETS.

Year.	Real Estate. ³	Mortgages on Real Estate.	Collateral Loans.	Bonds, Debentures, Stocks and other Company Property.	Cash on hand and in Banks.	Interest, Rents, etc., Due and Accrued.	Total. ⁴
	\$	\$	\$	\$	\$	\$	\$
1914.....	1,763,892	53,710,084	—	11,301,869	3,220,803	591,443	70,588,099
1915.....	1,779,030	52,807,357	—	12,793,309	3,933,004	679,966	71,992,666
1916.....	1,485,267	51,981,926	—	13,482,805	3,241,053	681,246	70,872,291
1917.....	1,577,576	49,712,872	—	14,156,080	3,478,220	751,475	69,676,223
1918.....	1,512,520	48,293,988	—	16,640,017	3,023,839	524,664	69,995,022
1919.....	—	—	—	—	2,838,636	261,810	74,520,021
1920.....	4,753,049	63,725,084	1,750,128	16,593,932	3,363,877	1,658	90,413,260
1921.....	4,979,779	67,147,513	1,618,865	15,328,797	4,568,948	2,790,348	96,698,810
1922.....	5,309,854	69,824,985	1,916,976	16,967,305	4,800,649	2,989,460	102,462,027
1923.....	5,515,170	73,858,726	1,772,148	16,445,635	3,467,822	3,353,822	104,866,101
1924.....	4,035,532	71,468,506	1,722,803	18,568,856	3,636,592	2,470,756	101,919,833
1925 ⁵	3,982,921	79,106,407	1,532,366	20,210,387	3,442,628	2,180,700	110,638,609
1926 ⁵	4,150,307	89,873,578	1,161,886	18,426,169	4,284,648	2,274,535	120,321,003
1927 ⁵	3,999,808	102,501,193	1,585,891	18,884,434	5,672,479	2,020,087	134,669,793
1928 ⁵	4,172,704	105,121,365	2,610,947	17,874,808	3,258,762	1,746,138	134,793,124
1929 ⁵	6,156,227	103,806,670	2,700,720	17,654,463	3,195,801	1,834,297	135,358,028
1930 ⁵	7,069,914	105,503,098	3,019,202	20,834,907	4,313,669	2,559,065	143,308,775

¹Includes other liabilities to shareholders. ²Includes other liabilities to the public. ³Book value of real estate for companies' use and other real estate. ⁴Includes other assets. ⁵Includes statistics of loan companies chartered by Nova Scotia but inspected by the Dominion Department of Insurance.

32.—Liabilities and Assets of Trust Companies Chartered by the Dominion Government, 1914-39.

COMPANY FUNDS—LIABILITIES.

Year.	To Shareholders.				To the Public.	Total.
	Capital Paid up.	Reserve Funds.	Other Liabilities.	Total.	Taxes, Borrowed Money, etc.	
	\$	\$	\$	\$	\$	\$
1914.....	6,051,146	2,541,413	202,427	8,794,986	1,948,414	10,743,400
1915.....	5,307,128	1,159,479	233,738	6,700,345	606,005	7,306,350
1916.....	5,673,670	1,245,589	237,214	7,206,473	620,470	7,826,943
1917.....	5,297,130	1,275,789	352,153	6,925,072	731,220	7,656,292
1918.....	6,266,203	1,477,617	415,938	8,159,758	676,379	8,836,137
1919.....	7,356,474	1,643,464	391,625	9,391,563	616,378	10,007,941
1920.....	7,465,376	1,908,753	391,975	9,766,104	561,265	10,327,369
1921.....	7,532,777	1,746,579	167,303	9,446,659	499,284	9,945,923
1922.....	7,678,401	1,912,123	46,068	9,636,592	329,827	9,966,419
1923.....	7,772,749	1,908,887	5,674	9,6 7 31	832,724	11,520,034
1924.....	8,796,479	1,918,567	169,390	10,884,436	766,783	11,651,219
1925 ¹	9,523,618	2,261,890	184,153	11,969,661	232,813	12,202,474
1926 ¹	9,666,449	2,313,464	393,932	12,373,845	580,380	12,954,225
1927 ¹	9,824,031	2,653,673	443,377	12,921,081	571,279	13,492,360
1928 ¹	10,424,249	2,877,766	549,905	13,851,920	741,364	14,593,284
1929 ¹	10,512,879	3,325,020	257,288	14,095,187	325,914	14,421,101
1930 ¹	10,260,025	3,431,538	718,240	14,409,803	294,897	14,704,700

COMPANY FUNDS—ASSETS.

Year.	Loans.			Real Estate.	Government, Municipal and School Securities Owned.	Stocks.	Cash on hand and in Banks.	All other Assets Belonging to the Companies.	Total Assets of the Companies.
	On Real Estate, First Liens.	On Real Estate, Second Liens.	On Stocks and Securities.						
	\$	\$	\$	\$	\$	\$	\$	\$	\$
1914....	5,189,797	113,095	557,625	—	787,400	—	179,928	3,033,756	9,861,601
1915....	3,972,520	102,395	647,524	—	876,760	—	172,448	1,529,522	7,301,169
1916....	3,906,986	544,747	374,392	—	1,116,110	—	266,964	1,585,513	7,794,712
1917....	3,993,484	297,387	253,781	—	1,145,815	—	173,130	1,789,364	7,652,961
1918....	3,933,962	101,784	294,472	—	1,829,000	—	724,689	1,936,365	8,830,272
1919....	4,432,455	557,171	496,769	—	2,170,618	—	706,763	1,635,773	9,999,549
1920....	4,736,064	—	512,800	701,564	2,500,942	349,294	576,125	847,463	10,224,252
1921....	4,408,914	—	344,302	908,618	2,400,914	253,779	603,618	1,317,785	10,237,930
1922....	5,254,434	—	391,475	973,022	1,584,234	264,186	473,687	1,412,205	10,353,243
1923....	5,402,752	—	375,129	1,048,682	1,656,304	292,564	481,672	1,573,406	10,830,509
1924....	5,114,753	—	446,001	1,551,673	1,598,971	336,818	524,368	2,483,675	12,056,259
1925 ¹	5,143,123	—	618,250	1,969,737	2,323,064	432,956	203,431	1,763,355	12,453,916
1926 ¹	5,450,907	—	580,128	2,091,322	2,318,344	477,917	705,064	1,571,595	13,195,277
1927 ¹	5,668,574	—	977,514	2,140,344	1,993,823	494,083	804,469	1,603,906	13,682,713
1928 ¹	5,651,201	—	1,156,698	2,148,354	2,808,630	495,094	917,019	1,589,288	14,766,284
1929 ¹	5,652,084	—	1,121,536	1,959,581	3,228,722	425,077	659,466	1,623,031	14,669,497
1930 ¹	5,573,596	—	1,183,298	2,049,285	3,176,348	458,392	732,025	1,779,338	14,952,282

¹Includes statistics of trust companies chartered by Nova Scotia but inspected by the Dominion Department of Insurance.

**32.—Liabilities and Assets of Trust Companies Chartered by the Dominion
Government, 1914-30—concluded.**

TRUST FUNDS—LIABILITIES.

Year.	Guaranteed Funds.			Estate, Trust and Agency Funds.	Total.
	Principal. ¹	Interest Due and Accrued.	Total.		
	\$	\$	\$	\$	\$
1914.....	8,560,468	—	8,560,468	29,832,343	38,392,811
1915.....	9,727,099	—	9,727,099	31,002,934	40,730,033
1916.....	10,405,318	—	10,405,318	36,756,902	47,162,220
1917.....	11,149,958	—	11,149,958	38,141,389	49,291,347
1918.....	12,743,379	—	12,743,379	56,194,857	68,938,236
1919.....	12,704,672	—	12,704,672	52,084,047	64,788,719
1920.....	9,339,070	135,971	9,475,041	57,225,303	66,700,344
1921.....	8,424,128	125,514	8,549,642	79,252,639	87,802,281
1922.....	8,473,720	126,868	8,600,588	92,449,298	101,049,886
1923.....	10,306,767	178,096	10,484,863	102,764,835	113,249,698
1924.....	14,027,120	133,583	14,160,703	123,082,289	137,242,992
1925 ²	15,897,339	—	15,897,339	131,420,502	147,317,841
1926 ²	17,979,412	—	17,979,412	139,777,235	157,756,647
1927 ²	22,464,753	—	22,464,753	161,040,061	183,504,814
1928 ²	24,105,724	—	24,105,724	202,655,185	226,760,909
1929 ²	24,465,263	—	24,465,263	210,005,726	234,470,989
1930 ²	26,408,829	—	26,408,829	205,282,593	231,691,422

¹Includes money in trust for investment amounting to \$2,562,455 in 1914, \$3,113,170 in 1915, \$3,799,149 in 1916, \$3,443,682 in 1917 and \$5,170,463 in 1918; corresponding amounts are included under the heading "Estate, trust and agency funds" for the years 1920 to 1930. The figures for 1919 are not available. ²Includes statistics of trust companies chartered by Nova Scotia but inspected by the Dominion Department of Insurance.

Section 4.—Sales of Canadian Bonds.

Interesting aspects of public financing and of the investment of capital in Canadian development during the twentieth century are measured by statistics of the sales of Canadian bonds since 1904 shown in Table 33. (The figures are reproduced from *The Monetary Times Annual*, 1932.) In the first part of this table, the bonds sold in each year are divided according to whether the financing was for Dominion or Provincial Governments, or for municipalities, railways or other corporations, while in the second part of the table the sales in each year are distributed according to sales in Canada, United States and Great Britain.

The total sales of Canadian bonds naturally reached a very high mark toward the close of the war owing to the huge amounts of Dominion Government financing required to cover the war expenditures. However, with the exception of the years 1918 and 1919, the total sales were greater in 1931 than in any other year. An important factor in the increase of nearly \$500,000,000 over 1930 was no doubt the more favourable conditions in the bond market in 1931. The break in the stock market in the autumn of 1929 resulted in a drop from the former high level of interest rates which had prevailed in the call loan market and thus released great sums of money for investment in bonds. The effect has been cumulative as the

period of depression has proceeded. Deflation in the stock market, the lowering of dividend rates, and the purchasing of stocks for the return they might be expected to yield, have turned the attention of the investing public toward the greater security of bonds as an investment. In turn with the increased demand, the prices of good bonds have advanced and can be sold under conditions more favourable to the seller than for some years before.

Dominion Government financing through bond sales since 1907 may be divided into three periods: the first from 1908 to 1914, when the money was required largely for internal development of the country, public works and Government railways; the second from 1915 to 1919, when war expenditures required very large borrowings; and the third since the war, when the issues have been largely required for refunding former loans at more favourable interest rates and for expenditures in connection with public works and railways.

Provincial bond issues have been on a much larger scale since the war than formerly, probably due to the development of provincially-owned public utilities and of improved highways. Sales of the bonds of Canadian municipalities, on the other hand, were greater in 1913, toward the end of the "land boom", than they have been in any other year, although sales in 1930 almost reached the record of that former year. However, allowing for the increased population in cities and towns, there has not been the same marked increase in the average annual sales of municipal bonds in the period since the war compared with the period before the war, that is noticeable in the case of provincial bonds.

Sales of corporation bonds, which from 1926 to 1930 had reached over \$200 million per year, dropped 73 p.c. in 1931, this being largely due to the uncertainty of the industrial outlook.

A very striking change has taken place during the present century in the market in which Canadian bond issues are principally sold. Prior to the war, a great part of the capital required for Canadian development was drawn from Great Britain, and the major portion of Canadian bond issues were sold there. The coming of the war temporarily eliminated that market, and Canadians turned largely to the United States for outside capital. However, the great increase in wealth during and since the war has enabled a much greater proportion of public and industrial financing to be done at home, and beginning with the Victory Loan campaigns, Canadians not only learned how to invest their money in bonds, but had the necessary funds to invest on a large scale in bond issues. These facts are reflected by the figures in Table 33 which show that since 1915 a greatly increased proportion of the total issues of Canadian bonds has been sold within Canada. The large proportion so sold in 1931 is due to the recent domestic offering of Dominion bonds in large amounts.

33.—Sales of Canadian Bonds, by Class of Bond and Country of Sale, calendar years 1904-31.

(From *The Monetary Times Annual*.)

CLASSES OF BONDS.

Calendar Year.	Dominion.	Provincial.	Municipal.	Railway.	Corporation.	Total.
	\$	\$	\$		\$	\$
1904.	—	11, 146, 000	14, 684, 247	—	9, 344, 000	35, 174, 247
1905.	—	346, 087	9, 013, 168	—	125, 515, 281	134, 874, 535
1906.	—	10, 000, 000	8, 332, 008	—	35, 655, 000	53, 987, 008
1907.	—	9, 274, 000	14, 430, 540	—	58, 931, 200	82, 635, 740
1908.	47, 665, 000	550, 083	44, 814, 930	—	103, 326, 508	196, 356, 521
1909.	62, 500, 000	9, 187, 500	31, 532, 960	103, 803, 180	61, 134, 612	265, 158, 552
1910.	45, 000, 000	10, 000, 000	49, 043, 325	41, 090, 000	85, 837, 265	231, 000, 515
1911.	—	11, 375, 000	30, 295, 838	85, 611, 265	139, 530, 885	266, 812, 988
1912.	25, 000, 000	25, 639, 700	47, 159, 288	45, 014, 925	130, 124, 069	272, 937, 990
1913.	34, 066, 666	36, 850, 000	110, 600, 936	65, 895, 880	126, 381, 813	373, 795, 505
1914.	48, 666, 666	56, 100, 000	79, 133, 996	59, 719, 000	29, 315, 405	272, 935, 067
1915.	170, 000, 000	48, 105, 000	67, 393, 328	33, 675, 000	15, 933, 000	335, 106, 556
1916.	175, 000, 000	33, 173, 000	93, 977, 542	22, 240, 000	32, 492, 000	356, 882, 542
1917.	650, 000, 000	15, 300, 000	24, 198, 079	17, 700, 000	18, 850, 000	726, 039, 079
1918.	689, 016, 000	18, 605, 000	43, 570, 361	19, 600, 000	4, 565, 000	775, 356, 361
1919.	753, 000, 000	52, 374, 000	26, 274, 089	35, 359, 133	42, 930, 000	909, 937, 222
1920.	—	125, 993, 000	56, 371, 391	96, 500, 000	46, 050, 276	324, 914, 658
1921.	—	160, 745, 400	84, 776, 931	96, 733, 000	61, 335, 825	403, 591, 087
1922.	200, 000, 000	114, 918, 000	87, 088, 877	13, 505, 100	76, 885, 500	492, 397, 277
1923.	200, 000, 000	106, 279, 000	83, 686, 422	27, 500, 000	97, 352, 320	514, 817, 742
1924.	175, 000, 000	89, 640, 000	88, 731, 612	157, 375, 000	69, 179, 180	579, 925, 799
1925.	169, 333, 333	106, 970, 000	46, 218, 987	40, 925, 195	120, 085, 833	483, 533, 348
1926.	105, 000, 000	76, 633, 267	65, 020, 194	34, 500, 000	250, 919, 200	532, 072, 593
1927.	45, 000, 000	114, 795, 500	72, 742, 114	80, 000, 000	289, 680, 067	602, 217, 685
1928.	—	92, 992, 500	27, 120, 588	48, 396, 000	285, 083, 000	453, 592, 088
1929.	—	119, 960, 500	98, 667, 809	199, 200, 000	243, 330, 600	661, 158, 209
1930.	140, 000, 000	160, 004, 000	109, 648, 063	137, 238, 000	220, 335, 000	767, 245, 066
1931.	858, 109, 300	126, 239, 205	85, 290, 066	121, 750, 000	59, 432, 000	1, 250, 820, 571

DISTRIBUTION OF SALES BY COUNTRIES.

Calendar Year.	Sold in Canada.	Sold in United States.	Sold in Great Britain.	Total.
	\$	\$	\$	\$
1904.	24, 235, 247	8, 354, 500	2, 584, 500	35, 174, 247
1905.	39, 996, 354	9, 256, 782	85, 621, 395	134, 874, 531
1906.	23, 304, 958	4, 118, 350	26, 563, 700	53, 987, 008
1907.	14, 761, 683	4, 779, 000	63, 095, 057	82, 635, 740
1908.	24, 585, 140	6, 316, 350	165, 455, 031	196, 356, 521
1909.	60, 433, 964	10, 367, 500	194, 356, 788	265, 158, 552
1910.	39, 296, 462	3, 634, 000	188, 070, 128	231, 000, 515
1911.	44, 989, 878	17, 553, 967	204, 269, 143	266, 812, 988
1912.	37, 735, 182	30, 966, 406	204, 236, 394	272, 937, 990
1913.	45, 603, 753	50, 720, 762	277, 470, 780	373, 795, 505
1914.	32, 999, 860	53, 944, 548	185, 990, 659	272, 935, 067
1915.	115, 325, 214	178, 606, 114	41, 175, 000	335, 106, 556
1916.	102, 938, 778	206, 943, 764	47, 000, 000	356, 882, 542
1917.	546, 330, 714	174, 708, 365	5, 000, 000	726, 039, 079
1918.	727, 446, 361	33, 310, 000	14, 600, 000	775, 356, 361
1919.	705, 385, 419	199, 446, 670	5, 105, 133	909, 937, 222
1920.	101, 830, 667	223, 084, 000	—	324, 914, 658
1921.	213, 326, 543	178, 113, 613	12, 151, 000	403, 591, 087
1922.	250, 184, 984	242, 212, 493	—	492, 397, 277
1923.	427, 868, 742	84, 517, 000	2, 432, 000	514, 817, 742
1924.	336, 758, 887	239, 544, 405	3, 622, 500	579, 925, 799
1925.	271, 251, 682	181, 370, 000	30, 411, 666	483, 533, 348
1926.	263, 862, 718	259, 209, 943	9, 000, 000	532, 072, 593
1927.	373, 637, 014	223, 714, 000	4, 866, 667	602, 217, 685
1928.	278, 080, 088	159, 512, 000	16, 000, 000	453, 592, 088
1929.	378, 395, 909	263, 654, 000	19, 109, 000	661, 158, 209
1930.	368, 868, 063	393, 632, 000	4, 745, 000	767, 245, 066
1931.	1, 090, 800, 571	155, 920, 000	4, 100, 000	1, 250, 820, 571

Section 5.—Foreign Exchange.

The Canadian dollar, adopted as our currency in 1857, was equivalent to 15/73 of the pound sterling; in other words, the pound was equal to \$4.866 in Canadian currency at par, and remained so, with minor variations between the import and export gold points representing the cost of shipping gold in either direction, until the outbreak of the Great War. Further, during the first eleven years after Confederation, the Canadian dollar was often at a premium in the United States, as the United States dollar was not, after the Civil War, redeemable in gold until 1878. From the latter date, the dollar in the two countries was equivalent at par, and the variation was only between the import and export gold points or under \$2 per \$1,000.

At the outbreak of the Great War, both the pound sterling and the Canadian dollar were made inconvertible into gold and fell to a discount in New York, though his discount was "pegged" or kept at a moderate percentage by sales of United States securities previously held in Great Britain, borrowing in the United States, and, after the United States entered the War, by arrangements with the United States Government. After the War, the exchanges were unpegged about November, 1920, and the British pound went as low as \$3.18 and the Canadian dollar as low as 82 cents in New York. In the course of the next year or two, exchange was brought practically back to par, and Great Britain resumed gold payment in 1925 and Canada on July 1, 1926. From then until 1928, the exchanges were within the gold points, but in 1929 the Canadian dollar again fell to a moderate discount in New York.

*Recent Movements in Canadian Exchange.*¹—Because Canada has no foreign exchange mechanism of her own, Canadian transactions in exchange and monetary gold have been governed by New York and London. Great Britain buys much more from Canada than Canada buys from her, but the reverse is the case as regards the trade between Canada and the United States. The result is that there is a supply of bills on London in excess of the amount needed to meet current obligations in Great Britain. By offering these for sale for United States funds in London or New York, a triangular balance is approximated by book transactions and without the cross transfers of the larger quantities of gold which would otherwise be necessary. The volume of sterling exchange on Canadian account thus passed to the New York market does not greatly influence New York rates of sterling exchange under normal conditions; on the contrary, the volume of the New York-London transactions is sufficient to carry the Canadian rates along with them. Canadian exchange transactions with other countries are handled through London or New York and are unimportant of themselves, depending on the relationships with Canadian-New York and Canadian-London transactions.

In September, 1931, the equilibrium of international exchange was seriously disturbed. This unfortunate turn of events followed a period of over six years during which the nations of the world had worked steadily towards the stabilization of their currency systems upon a gold basis. Within two months of the time when Great Britain found it necessary to suspend free gold shipments, however, only a very small number of countries, including the United States and France, were left with currencies unshaken by preceding abnormal gold movements. The decision of Great Britain to go off the gold standard (Sept. 21, 1931) resulted in a sharp depreciation of sterling in New York, and partly owing to the triangular nature

¹Revised by Herbert Marshall, B.A., F.S.S., Chief, Internal Trade Branch, Dominion Bureau of Statistics.

of the situation, but in some measure due to the immediate withdrawals of funds from Canadian banks by United States interests, short selling of Canadian exchange and other influences, Canadian rates depreciated also and have since fluctuated broadly with sterling.

As the following tables show, during the greater part of 1930 the position of the Canadian dollar was relatively firm, but pressure upon it developed towards the close of the year. The New York gold export point was passed in January, 1931, and again in June, since when Canadian funds have continued steadily below this level. In November and December discounts at New York were very high, running commonly in the neighbourhood of 20 p.c. Dating from the latter part of December, however, the Canadian dollar has made steady progress on all exchanges. At present it enjoys a premium over sterling, all three of the Scandinavian kroner, the Argentine peso, the Brazilian milreis, the Indian rupee, and the Japanese yen, but is still at a discount in terms of the U.S. dollar, French and Swiss francs, the Dutch guilder, the Belgian belga, and the German reichsmark.

34.—Monthly Average Exchange Quotations at Montreal, 1930 and 1931.

NOTE.—The nominal closing quotations in Canadian funds upon which these averages are based, have been supplied by the Bank of Montreal.

Month.	Australia. Pound.		Austria. Schilling.		Belgium. Belga.		Czecho- slovakia. Krone.		Denmark. Krone.		Finland. Markka.	
	4-8666		.1407		.1390		.0296		.2680		.0252	
	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.
Par.	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
January.....	-	-	.1431	.1409	.1408	.1397	.0299	.0296	.2704	.2678	.0254	.0252
February.....	-	-	.1427	.1405	.1401	.1394	.0298	.0296	.2692	.2675	.0253	.0252
March.....	-	-	.1427	.1408	.1396	.1393	.0296	.0296	.2681	.2676	.0252	.0252
April.....	-	-	.1425	.1409	.1396	.1390	.0296	.0296	.2679	.2676	.0252	.0252
May.....	-	-	.1421	.1412	.1397	.1393	.0296	.0296	.2680	.2679	.0252	.0252
June.....	-	-	.1418	.1411	.1396	.1395	.0296	.0298	.2675	.2684	.0252	.0252
July.....	-	3-7436	.1408	.1414	.1397	.1398	.0296	.0297	.2677	.2680	.0252	.0252
August.....	-	3-7576	.1421	.1410	.1396	.1399	.0296	.0297	.2678	.2685	.0251	.0253
September.....	-	3-7761	.1423	.1473	.1392	.1459	.0296	.0310	.2673	.2591	.0251	.0264
October.....	-	3-2675	.1420	.1571	.1393	.1568	.0296	.0332	.2672	.2466	.0251	.0270
November.....	-	3-1766	.1420	.1592	.1393	.1570	.0296	.0335	.2671	.2299	.0251	.0240
December.....	-	3-3129	.1411	.1734	.1398	.1705	.0297	.0362	.2680	.2300	.0252	.0232

Month.	France. Franc.		Germany. Reichs- mark.		Holland. Guilder.		Italy. Lira.		Norway. Krone.		Spain. Peseta.	
	.0392		.2382		.4020		.0526		.2680		.1930 ¹	
	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.
Par.	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
January.....	.0397	.0393	.2414	.2382	.4065	.4030	.0527	.0524	.2702	.2677	.1332	.1037
February.....	.0393	.0392	.2400	.2377	.4033	.4013	.0526	.0523	.2690	.2675	.1250	.1028
March.....	.0392	.0391	.2389	.2382	.4017	.4010	.0524	.0524	.2680	.2676	.1250	.1080
April.....	.0392	.0391	.2387	.2382	.4023	.4016	.0524	.0523	.2679	.2676	.1248	.1041
May.....	.0392	.0391	.2390	.2381	.4029	.4021	.0525	.0523	.2680	.2679	.1224	.0977
June.....	.0392	.0392	.2384	.2379	.4019	.4033	.0524	.0524	.2676	.2684	.1163	.0977
July.....	.0393	.0392	.2385	.2345	.4021	.4038	.0523	.0524	.2678	.2680	.1155	.0930
August.....	.0392	.0393	.2386	.2382	.4025	.4046	.0523	.0525	.2678	.2685	.1085	.0885
September.....	.0392	.0411	.2379	.2477	.4025	.4212	.0523	.0544	.2672	.2670	.1075	.0944
October.....	.0392	.0441	.2378	.2616	.4025	.4534	.0523	.0579	.2672	.2467	.1052	.1000
November.....	.0392	.0442	.2381	.2674	.4020	.4542	.0523	.0582	.2672	.2282	.1133	.0970
December.....	.0393	.0480	.2387	.2885	.4033	.4930	.0524	.0626	.2678	.2287	.1064	.1020

For footnote see end of table, p. 795.

34.—Monthly Average Exchange Quotations at Montreal, 1930 and 1931—
concluded.

Month. Par.	Sweden. Krona. -2680		Switzer- land. Franc. -1930		Argentine. Peso. (paper) -4244		Brazil. Milreis. -1196		Mexico. Peso. -4985		Hong Kong. Dollars. -3000 ¹	
	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
January.....	2714	2682	1955	1939	4088	3092	1136	0926	4785	4661	-	2452
February.....	2698	2678	1941	1928	3825	3208	1133	0861	4786	4655	-	2264
March.....	2690	2679	1939	1924	3802	3457	1160	0812	4818	4751	3762	2524
April.....	2689	2679	1939	1926	3957	3373	1180	0744	4713	4761	3742	2451
May.....	2687	2682	1938	1931	3846	3132	1186	0687	4759	4841	3555	2401
June.....	2685	2687	1937	1942	3716	3093	1142	0757	4741	4926	3125	2468
July.....	2686	2682	1941	1949	3623	3091	1096	0728	4714	4929	3145	2500
August.....	2686	2686	1942	1958	3633	2868	1024	0634	4733	4933	3250	2400
September.....	2683	2730	1938	2046	3608	2797	1019	0635	4737	5151	3226	2618
October.....	2682	2595	1939	2197	3461	2646	1053	0682	4707	4707	3207	2754
November.....	2681	2289	1936	2200	3453	3028	1031	0741	4613	4495	3131	2964
December.....	2686	2308	1943	2387	3338	3188	0930	0783	4593	4773	2826	3089

Month. Par.	India. Rupee. -5650		Japan. Yen. -4985		Shanghai. Tael. -4167 ¹		London. Sterling. 4-8666		New York. Dollar. 1-00	
	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.	1930.	1931.
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
January.....	3688	3614	4969	4958	5048	3234	4-9184	4-86275	1-01345	1-0020
February.....	3668	3600	4952	4945	4856	2906	4-8931	4-85764	1-00599	1-0002
March.....	3643	3616	4952	4940	4768	3238	4-8706	4-85089	1-00209	1-0002
April.....	3643	3626	4943	4942	4717	3157	4-8637	4-86010	1-00043	1-0004
May.....	3630	3628	4949	4942	4428	3039	4-8655	4-864675	1-00172	1-0005
June.....	3615	3620	4944	4953	3721	3042	4-8563	4-876325	1-00000	1-0026
July.....	3617	3629	4935	4950	3722	3112	4-8539	4-867056	99914	1-00321
August.....	3617	3616	4937	4952	3923	2996	4-8638	4-868630	99901	1-00304
September.....	3614	3778	4939	5171	3995	3291	4-8532	4-692867	99838	1-04293
October.....	3614	3456	4957	5531	3930	3648	4-8528	4-382308	99889	1-12370
November.....	3615	3281	4912	5600	3809	3921	4-8499	4-190870	99891	1-12342
December.....	3623	3182	4975	5354	3598	4107	4-8597	4-092308	1-0023	1-21048

1. Rates given are those recognized in pre-war years, no post-war financial readjustment having been effected.

—Fluctuations in Exchange Quotations at Montreal, for December, 1931, and
January to April, 1932.

RE.—The nominal closing quotations in Canadian funds upon which the figures are based, have been supplied by the Bank of Montreal.

Year and Month. Par.	New York. Dollar. 1-00	Lon- don. Ster- ling. 4-8666	France. Franc. -0392	Bel- gium. Belga. -1390	Italy. Lira. -0526	Switz- erland. Franc. -1930	Hol- land. Guilder. -4020	Nor- way. Krone. -2680	Swe- den. Krona. -2680	Den- mark. Krone. -2680
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1— December—										
High.....	1-250	4-320	0492	1740	0644	2440	5040	2355	2425	2420
Low.....	1-158	3-840	0452	1606	0598	2255	4650	2120	2140	2130
Average.....	1-211	4-092	0476	1688	0621	2384	4879	2245	2286	2268
Close.....	1-200	4-090	0475	1680	0612	2355	4840	2220	2295	2255
2— January—										
High.....	1-191	4-130	0471	1667	0607	2342	4811	2268	2298	2284
Low.....	1-153	3-970	0455	1610	0580	2253	4646	2172	2236	2199
Average.....	1-173	4-028	0462	1638	0595	2295	4727	2204	2265	2227
Close.....	1-156	3-990	0456	1616	0580	2260	4660	2185	2243	2205
February—										
High.....	1-165	4-000	0459	1627	0608	2275	4707	2191	2255	2215
Low.....	1-129	3-920	0445	1572	0578	2190	4548	2132	2176	2166
Average.....	1-145	3-959	0452	1598	0595	2235	4625	2155	2216	2184
Close.....	1-131	3-945	0446	1573	0588	2190	4548	2133	2180	2172
March—										
High.....	1-131	4-230	0446	1576	0588	2194	4563	2293	2293	2332
Low.....	1-106	3-920	0436	1545	0576	2143	4457	2131	2158	2158
Average.....	1-118	4-060	0440	1561	0582	2166	4509	2203	2227	2247
Close.....	1-109	4-230	0437	1550	0577	2150	4483	2235	2255	2325
April—										
High.....	1-128	4-215	0445	1579	0581	2191	4570	2235	2275	2325
Low.....	1-105	4-070	0436	1548	0570	2148	4473	2040	2030	2255
Average.....	1-112	4-173	0439	1559	0574	2165	4507	2137	2137	2293
Close.....	1-120	4-100	0442	1570	0578	2177	4540	2077	2058	2255

35.—Fluctuations in Exchange Quotations at Montreal, for December, 1931, and January to April, 1932—concluded.

Year and Month.	Spain. Pese- ta.	Czecho- slo- vakia. Krone.	Argen- tine. Peso (paper).	Aus- tralia. Pound.	Brazil. Mil- reis.	Germ- any. Reichs- mark.	India. Rupee.	Hong Kong. Dol- lar.	Japan. Yen
Par.	·1930	·0296	·4244	4·8666	·1196	·2382	·3650	·3000	·4965
	\$	\$	\$	\$	\$	\$	\$	\$	\$
1931—									
December—									
High.....	·1060	·0372	·3364	3·450	·0810	·2959	·3271	·3220	·595
Low.....	·0972	·0343	·3090	2·940	·0752	·2717	·2893	·2825	·428
Average.....	·1022	·0360	·3213	3·239	·0782	·2863	·3162	·3055	·534
Close.....	·1020	·0360	·3090	3·160	·0765	·2854	·3120	·3050	·428
1932—									
January—									
High.....	·1012	·0355	·3090	3·720	·0774	·2823	·3093	·3036	·602
Low.....	·0957	·0343	·2939	3·180	·0748	·2712	·3038	·2875	·405
Average.....	·0989	·0349	·3030	3·238	·0761	·2779	·3071	·2959	·420
Close.....	·0957	·0344	·3006	3·190	·0751	·2734	·3049	·2951	·408
February—									
High.....	·0937	·0346	·3016	3·200	·0756	·2766	·3069	·3023	·418
Low.....	·0868	·0335	·2903	3·130	·0734	·2687	·2980	·2901	·265
Average.....	·0893	·0340	·2968	3·161	·0744	·2722	·3019	·2937	·302
Close.....	·0868	·0336	·2912	3·150	·0735	·2694	·2997	·2906	·275
March—									
High.....	·0879	·0336	·2912	3·380	·0734	·2689	·3229	·2910	·375
Low.....	·0838	·0328	·2645	3·130	·0676	·2636	·2951	·2726	·311
Average.....	·0854	·0332	·2875	3·240	·0723	·2661	·3101	·2795	·333
Close.....	·0838	·0331	·2882	3·380	·0720	·2641	·3229	·2757	·339
April—									
High.....	·0884	·0334	·2925	3·370	·0812	·2679	·3276	·2744	·370
Low.....	·0838	·0329	·2858	3·260	·0718	·2621	·3064	·2624	·361
Average.....	·0859	·0331	·2890	3·332	·0764	·2643	·3220	·2666	·363
Close.....	·0882	·0334	·2910	3·280	·0811	·2662	·3064	·2624	·361

CHARTER XXIII.—INSURANCE.¹

Insurance companies incorporated by, or under Acts of, the Parliament of Canada or of other countries and transacting business throughout the Dominion of Canada are licensed by the Dominion Government under Acts administered by the Department of Insurance under the Minister of Finance, while other insurance companies, doing business only in one province, or, by arrangement, in more provinces than one, are incorporated and licensed by Provincial Governments. The statistics here published are in the main those of companies doing business under licence from the Dominion Government, and are divided into three classes relating to: (1) insurance against fire, (2) life insurance, and (3) insurance of a miscellaneous character, covering risks of accident, guarantee, employers' liability, sickness, burglary, hail, steam boiler, tornado, weather, inland transportation, automobile, sprinkler leakage, live stock and titles. These statistics refer in all cases to calendar years and are compiled from the reports of the Department of Insurance.

Since 1915, the Department of Insurance has endeavoured to collect from the available sources statistics of the business transacted by companies holding licences from the Provincial Governments of Canada. The business of the provincial licensees is divided into three classes: (1) business transacted by provincially incorporated companies within the province by which they are incorporated; and (2) business transacted by provincially incorporated companies in provinces other than those by which they are incorporated. Further, under section 129 of The Insurance Act (c. 101, R.S.C., 1927), fire insurance on property in Canada may be effected, under specified conditions, with companies or associations outside of Canada which are not licensed to transact insurance business in Canada.

This chapter is brought to a close with a presentation of the statistics of Dominion Government annuities, administered by the Department of Labour but closely related to the field of insurance.

Section 1.—Fire Insurance.

Fire insurance in Canada began with the establishment by British fire insurance companies of agencies, usually situated in the sea ports and operated by local merchants. The oldest existing agency of a British company is that of the Phoenix Fire Office of London, now the Phoenix Assurance Co., Ltd., which commenced business in Montreal in 1804. On account of the growth of the insurance business these early British companies, branch offices were established and local managers were appointed, charged with directing the companies' affairs in Canada.

The Halifax Fire Insurance Co. is the first purely Canadian company of which any record is available. Founded in 1809 as the Nova Scotia Fire Association, it was chartered in 1819 and operated in the province of Nova Scotia until 1919, when it was granted a Dominion licence. Among the other pioneer fire insurance companies still in operation, mention may be made of the following: the Quebec Fire Assurance Co., which commenced business in 1818 and was largely confined to ownership and operations to Quebec province; the British America Assurance Co., incorporated in 1833, the oldest company in Ontario; the Western Assurance

¹ The statistics of Fire, Life and Miscellaneous Insurance have been revised by G. D. Finlayson, Superintendent of Insurance, and those pertaining to Government Annuities by H. H. Ward, Deputy Minister, Department of Labour.

Co., organized in 1851, and, after a rapid and steady growth, one of the largest companies of its kind on the continent; two United States companies, the *Ætæna* Insurance Co., Hartford, Conn., and the Hartford Fire Insurance Co., which commenced business in Canada in 1821 and 1836 respectively.

Any company other than a company incorporated by a province of Canada desirous of carrying on business throughout Canada must obtain a licence from the Dominion Government, but if so incorporated, a licence may be had from the province, and it may transact business within such limits, or, by grace of any other province, within such province, without regard to any general laws of the Dominion relating to insurance. In 1875 a Department of Insurance was created as a branch of the Finance Department at Ottawa, under the supervision of an officer known as the "Superintendent of Insurance", whose duties are to see that the insurance laws enacted from time to time by the Canadian Parliament are duly observed by the companies. Some important requirements under these laws are (1) an initial deposit varying from \$10,000 to \$100,000 in approved securities with the Minister; (2) the appointment of a chief agent with power of attorney from the company; (3) the filing of a statement showing the financial position of the company at the time of its application for a licence, and subsequent annual statements of its business. In addition, books of record must be kept at its chief office and be opened to the inspection of Departmental officers whose practice is to examine them annually.

The report of the Superintendent of Insurance for the year ended Dec. 31, 1930, shows that at that date there were 238 fire insurance companies doing business in Canada under Dominion licences; of these 52 were Canadian, 66 were British and 120 were foreign companies, whereas in 1875, the first year for which authentic records were collected by the Insurance Department, 27 companies operated in Canada—11 Canadian, 13 British and 3 American. The proportional increase in the number of British and foreign companies from 59 p.c. to 78 p.c. of the total number is a very marked point of difference between the fire and life insurance businesses in Canada, the latter being carried on very largely by Canadian companies.

Although in its early days the Dominion did not prove a very lucrative field for fire insurance companies, the great advance in building construction and the wide use of improved fire appliances and safety devices have reduced materially the danger of serious conflagrations and have placed the risks assumed by companies in Canada on an equality with those of other countries. A general decline in the rate of losses paid to premiums received and in the average cost per \$1 of insurance may be noted in recent years (Table 1).

A feature of the fire insurance business, besides the increase in premiums received, is the continued increase in the number of companies which are operating on the mutual or reciprocal plan. These companies, in which all profits or losses

are directly received or paid by the policyholders, are making themselves felt as competitive factors in the fire insurance business.

Statistics of Fire Insurance.—Statistical tables of fire insurance in Canada follow, illustrative of the progress of total business since 1869 and of the operations of individual companies for the year 1930. The net amount of fire insurance in force on Dec. 31, 1930, with companies holding Dominion licences, was \$9,672,-96,973, while the net amount in force with provincial companies on the same date was \$1,345,185,547. In addition, policies amounting to \$1,005,857,392 were in force during the year 1929 (the latest year for which information is available) by companies, associations or underwriters not licensed to transact business in Canada. Thus the grand total fire insurance in force on Dec. 31, 1930, would exceed \$12,000,000,000. According to preliminary figures, fire insurance in force in companies operating under Dominion licences decreased by \$123,838,780 in 1931.

Table 1 shows figures of the growth since 1869 of companies holding Dominion licences, the relationship between losses paid and net premiums written, and the variation in the cost per \$100 of insurance. It will be observed that the cost of insurance reached a maximum in 1904 and 1905 since when there has been a steady decrease with the exceptions of 1921 and 1922 when a temporary reversal of the downward swing was in evidence. It is noteworthy that the cost of fire insurance has decreased by 50 p.c. since 1905. Table 2 shows the business done in Canada by individual companies during the year 1929, while in Tables 3, 4 and 5 are given figures of the assets, liabilities, income and expenditure of companies of various nationalities during the years 1924 to 1929. A close study of the various items included in these tables will afford an excellent idea of the type of business transacted by these various groups. A further summary of business by provinces is given in Table 6 for the years 1928 and 1929, with premiums and losses shown by nationality of companies. Further, a general summary of the business transacted by both Dominion and provincial licensees is given in Table 7, with business by unlicensed companies added in Table 8.

1.—Summary Statistics of Fire Insurance, in Companies Operating under Dominion Licences, 1869-1931.

Year.	Amount in Force at end of Year.	Net Premiums Written during Year.	Losses Paid during Year.	Percent- age of Losses to Pre- miums.	Gross Amount of Risks Taken during Year.	Premiums Charged Thereon. ¹	Average Cost per \$100 of Insurance.
	\$	\$	\$	p.c.	\$	\$	\$
69.....	188,359,809	1,785,539	1,027,720	57.56	171,540,475	-	-
70.....	191,549,586	1,916,779	1,624,837	84.77	199,102,070	-	-
71.....	228,453,784	2,321,716	1,549,199	66.73	244,437,172	-	-
72.....	251,722,940	2,628,710	1,909,975	72.66	277,387,271	-	-
73.....	278,754,835	2,968,416	1,682,184	55.67	271,095,928	-	-
74.....	306,844,219	3,522,303	1,926,159	54.68	329,178,974	-	-
75.....	364,421,029	3,594,764	2,563,531	71.31	331,098,419	-	-
76.....	404,608,180	3,708,006	2,867,295	77.33	401,148,747	-	-
77.....	420,342,681	3,764,005	8,490,919	225.58	385,736,566	3,817,360	0.99
78.....	409,899,701	3,368,430	1,822,674	54.11	359,847,757	3,723,530	1.35

¹ Figures from 1869-1876 not available.

1.—Summary Statistics of Fire Insurance, in Companies Operating under Dominion Licences, 1869-1931—continued.

Year.	Amount in Force at end of Year.	Net Premiums Written during Year.	Losses Paid during Year.	Percent- age of Losses to Pre- miums.	Gross Amount of Risks Taken during Year.	Premiums Charged Thereon.	Average Cost per \$100 of Insurance.
	\$	\$	\$	p. c.	\$	\$	\$
1879.....	407,357,985	3,227,488	2,145,198	66.47	360,704,419	3,608,501	1.00
1880.....	411,563,271	3,479,577	1,666,578	47.90	384,051,861	3,958,437	1.00
1881.....	462,210,968	3,827,116	3,169,824	82.83	441,416,238	4,414,728	1.00
1882.....	526,836,478	4,229,706	2,664,986	63.01	478,044,416	4,850,717	1.01
1883.....	572,264,041	4,624,741	2,920,228	63.14	513,580,302	5,379,950	1.06
1884.....	605,507,789	4,980,128	3,245,323	65.16	513,983,378	5,934,773	1.15
1885.....	611,794,479	4,852,460	2,679,287	55.22	486,002,90	5,684,758	1.17
1886.....	586,773,022	4,932,335	3,301,388	66.93	505,752,907	5,854,172	1.10
1887.....	634,767,337	5,244,502	3,403,514	64.90	532,757,088	6,145,188	1.15
1888.....	650,735,059	5,437,263	3,073,822	56.53	541,580,007	6,390,296	1.18
1889.....	684,538,378	5,588,016	2,876,211	51.47	572,782,104	6,628,336	1.16
1890.....	720,679,621	5,836,071	3,266,567	55.97	620,723,945	7,019,319	1.13
1891.....	759,602,191	6,168,716	3,905,697	63.31	623,418,422	7,248,495	1.16
1892.....	821,410,072	6,512,327	4,377,270	67.22	687,175,688	8,086,503	1.18
1893.....	814,687,057	6,793,595	5,052,690	74.37	687,604,239	8,115,594	1.18
1894.....	836,067,202	6,711,369	4,589,363	68.38	653,539,428	8,158,033	1.23
1895.....	837,872,864	6,943,382	4,993,750	71.92	667,639,048	8,243,605	1.23
1896.....	845,574,352	7,075,850	4,173,501	58.98	669,288,650	8,397,876	1.25
1897.....	868,522,217	7,157,661	4,701,833	65.69	663,698,309	8,304,227	1.25
1898.....	895,394,107	7,350,131	4,784,487	65.09	681,160,689	8,564,124	1.20
1899.....	936,869,668	7,910,492	5,182,038	65.51	756,257,098	9,316,685	1.23
1900.....	992,332,360	8,331,948	7,774,293	93.31	803,428,654	10,031,735	1.25
1901.....	1,038,687,619	9,650,348	6,774,956	70.20	821,522,854	11,688,958	1.42
1902.....	1,075,263,168	10,577,084	4,152,289	39.26	892,049,886	13,087,251	1.43
1903.....	1,140,453,716	11,884,762	5,870,716	51.57	933,274,764	14,038,182	1.50
1904.....	1,215,013,931	13,169,882	14,099,534	107.06	1,002,305,105	16,006,969	1.60
1905.....	1,318,146,495	14,285,671	6,000,519	42.00	1,140,095,372	18,262,037	1.60
1906.....	1,443,902,244	14,687,963	6,584,291	44.83	1,210,099,865	18,554,730	1.53
1907.....	1,614,703,536	16,114,475	8,445,041	52.41	1,364,204,991	20,492,863	1.53
1908.....	1,700,708,263	17,027,275	10,279,455	60.37	1,466,294,021	21,968,432	1.53
1909.....	1,863,276,504	17,049,464	8,646,826	50.72	1,579,975,867	22,293,633	1.44
1910.....	2,034,276,740	18,725,531	10,292,393	54.96	1,817,055,685	24,684,296	1.34
1911.....	2,279,868,346	20,575,255	10,936,948	53.16	1,987,640,591	26,867,170	1.34
1912.....	2,684,355,895	23,194,518	12,119,581	52.25	2,374,161,732	30,639,867	1.23
1913.....	3,151,930,389	25,745,947	14,003,759	54.39	2,925,200,553	36,032,461	1.23
1914.....	3,456,019,009	27,499,158	15,347,284	55.81	3,104,101,568	36,185,927	1.11
1915.....	3,531,620,802	26,474,833	14,161,949	53.49	3,111,552,903	36,048,345	1.11
1916.....	3,720,058,236	27,783,852	15,114,063	54.40	3,418,238,860	37,231,691	1.10
1917.....	3,986,197,514	31,246,530	16,379,101	52.42	4,049,059,999	43,515,822	1.10
1918.....	4,523,514,841	35,954,405	19,359,352	53.84	4,606,035,056	48,770,112	1.06
1919.....	4,923,024,381	40,031,474	16,679,355	41.67	5,423,569,961	57,577,632	1.06
1920.....	5,969,872,278	50,527,937	21,935,387	43.41	6,790,670,610	71,143,917	1.06
1921.....	6,020,513,832	47,312,564	27,572,560	58.28	6,139,531,168	68,161,786	1.11
1922.....	6,348,637,436	48,168,310	32,848,020	68.19	6,471,133,294	68,347,294	1.04
1923.....	6,806,937,041	51,169,250	32,142,494	62.82	7,311,835,110	73,037,471	1.04
1924.....	7,224,475,267	49,833,718	29,186,904	58.57	6,987,536,461	71,146,802	1.04
1925.....	7,583,297,899	51,040,075	26,943,089	52.79	7,646,026,535	74,679,130	0.98
1926.....	8,051,444,136	52,595,923	25,705,975	48.87	8,716,166,834	81,104,612	0.98
1927.....	8,287,732,966	51,375,637	20,831,931	40.55	8,531,139,424	76,423,855	0.91
1928.....	8,761,579,512	54,826,851	25,544,664	46.57	9,187,224,958	80,413,215	0.91
1929.....	9,431,169,594	56,112,557	30,209,839	53.84	10,791,096,165	87,317,411	0.91
1930.....	9,672,996,973	52,646,520	30,427,968	57.71	10,311,193,608	82,700,147	0.86
1931 ²	9,549,158,193	50,616,654	29,901,370	59.07	10,797,668,933	89,110,608	0.86

² Figures for 1931 are subject to revision.

2.—Fire Insurance Business Transacted in Canada, by Companies, 1930.

Company.	Gross Amount of Risks Taken during Year.	Premiums Charged Thereon.	Rate of Premiums per cent of Risks.	Net Cash Received for Premiums.	Net Cash Paid for Losses.	Percentage of Losses Paid to Premiums Received.
Canadian Companies.	\$	\$	p.c.	\$	\$	p.c.
Adia.....	51,923,118	624,970	1.20	200,825	102,978	51.28
Adigonish.....	16,257,700	2,819	1.09	2,818	331	11.73
Aver.....	16,610,556	132,927	.80	31,310	17,063	54.50
British America.....	80,296,123	682,449	.85	467,372	245,715	52.57
British Canadian.....	18,396,249	189,250	1.03	109,981	59,940	54.50
British Colonial.....	43,808,370	478,099	1.09	241,317	171,581	71.10
British Empire.....	18,344,208	221,915	1.21	136,635	79,560	58.23
British Northwestern.....	54,892,947	334,589	.61	178,926	103,058	57.60
Canada Accident and Fire.....	47,911,924	432,190	.90	222,319	122,635	55.16
Canada National.....	17,435,772	210,446	1.21	118,884	47,763	40.18
Canada Security.....	34,594,981	324,489	.94	152,214	97,298	63.92
Canadian Fire.....	73,828,706	724,554	.98	323,113	150,835	46.68
Canadian General.....	32,172,537	289,107	.90	172,430	119,556	69.34
Canadian Indemnity.....	27,879,614	293,752	1.05	156,028	92,642	59.38
Canadian Surety.....	8,443,693	64,403	.76	27,260	3,062	11.23
Commercial Casualty Company.....	8,064,749	64,188	.80	36,029	11,907	33.05
Commerce Mutual.....	8,331,604	587,666	7.05	226,205	98,517	43.55
Comberland.....	252,850	3,808	1.51	3,683	1,426	38.72
Cominion Fire.....	52,106,083	489,223	.94	293,988	124,486	42.34
Cominion of Canada General.....	49,828,810	368,696	.74	194,268	56,784	29.23
Comsign.....	12,424,910	127,300	1.02	74,321	26,791	36.05
Com Insurance Co. of Canada.....	72,711,328	721,244	.99	318,040	185,139	58.21
Com General Accident of Canada.....	24,712,495	202,437	.82	91,186	28,209	30.94
Com Globe Indemnity.....	65,785,845	504,820	.77	167,769	77,887	46.43
Com Main.....	42,338,954	377,925	.89	318,254	239,302	75.19
Com Gardian Insurance.....	40,277,896	275,365	.68	93,818	50,824	54.17
Com Halifax.....	54,109,566	505,132	.93	137,872	91,887	66.65
Com Hudson Bay.....	82,899,975	563,389	.68	184,787	96,195	52.06
Com Imperial Guarantee.....	14,074,269	126,653	.90	67,716	30,799	45.48
Com Imperial Insurance.....	37,965,760	311,184	.82	144,286	79,538	55.13
Com Kings Mutual.....	2,816,565	42,488	1.51	41,158	25,613	62.23
Com Lurentian.....	14,946,515	204,482	1.37	69,307	66,356	95.74
Com Liverpool—Manitoba.....	79,237,783	638,005	.81	232,273	136,040	58.57
Com London and Lancashire & G'tee.....	6,442,816	63,359	.98	17,281	6,884	39.84
Com London-Canada.....	32,391,346	310,255	.96	178,270	88,786	49.80
Com Mercantile.....	55,486,288	305,127	.55	131,114	51,215	39.06
Com Merchants' and Employers'.....	3,243,908	36,553	1.13	19,821	1,312	6.62
Com Mount Royal.....	62,539,013	686,161	1.10	311,819	236,250	75.77
Com National Liverpool.....	41,448,489	418,953	1.01	148,814	39,242	26.37
Com North Empire.....	47,706,382	404,370	.85	134,256	81,420	60.65
Com North West Fire.....	19,630,639	188,806	.96	112,214	56,114	50.01
Com Occidental.....	52,856,379	460,149	.87	210,979	109,179	51.75
Com Pacific Coast.....	40,557,687	309,030	.76	132,721	73,396	55.30
Com Port County.....	1,012,150	7,908	.78	7,876	5,282	67.06
Com Pioneer.....	14,047,899	172,515	1.23	68,125	57,442	84.32
Com Portage la Prairie.....	27,564,282	537,951	.95	315,554	207,867	65.87
Com Quebec.....	48,425,064	398,744	.82	173,789	69,879	40.21
Com Alliance.....	20,620,155	167,391	.81	73,343	29,144	37.20
Com Scottish Canadian.....	23,752,645	206,988	.87	80,491	29,214	36.29
Com Trans-Canada.....	23,045,002	235,798	1.02	116,037	63,541	54.76
Com Vancouver.....	75,816,611	1,276,702	1.68	724,665	484,266	66.83
Com Western.....	137,779,549	1,038,589	.75	634,295	344,170	54.26
Totals.....	1,924,058,259	18,345,313	.95	8,832,856	4,876,320	55.21
British Companies.						
Com Alliance.....	87,753,355	535,665	.61	464,582	259,625	55.88
Com Anglo-Scottish.....	45,525,588	363,755	.80	177,665	124,998	70.36
Com Glasgow.....	132,358,004	940,122	.71	751,913	382,010	50.81
Com Bankers' and Traders.....	18,489,420	176,287	.95	132,037	55,113	41.74
Com British and European.....	8,871,898	72,930	.82	41,727	20,971	50.26
Com British Crown.....	66,968,668	459,258	.69	346,278	192,476	55.58
Com British General.....	26,566,017	166,082	.63	102,816	57,331	55.76
Com British Law.....	18,311,568	137,305	.75	84,939	61,768	72.72
Com British Oak.....	24,419,819	183,888	.75	141,220	124,924	88.46
Com British Traders.....	50,129,700	260,171	.52	193,603	74,096	38.27
Com Caledonian.....	57,033,248	497,494	.87	344,236	183,576	53.33
Com Commercial and General.....	39,778,601	305,899	.77	174,252	100,648	57.76
Com Commercial Union.....	35,493,569	283,531	.80	176,791	142,365	80.53
Com Commercial Union.....	68,797,075	465,807	.68	265,462	133,312	50.22
Com Commercial Union.....	5,718,551	30,750	.54	22,736	4,128	18.16
Com Commercial Union.....	131,247,247	998,978	.76	738,216	432,539	58.59

2.—Fire Insurance Business Transacted in Canada, by Companies, 1930—continued.

Company.	Gross Amount of Risks Taken during Year.	Premiums Charged Thereon.	Rate of Premiums per cent of Risks.	Net Cash Received for Premiums.	Net Cash Paid for Losses.	Percentage of Losses Paid to Premium-Received.
British Companies—concluded.	\$	\$	p.c.	\$	\$	p.c.
Cornhill.....	34,203,144	258,602	·76	221,414	103,101	46·7
Eagle Star.....	84,263,766	532,247	·63	414,228	243,968	58·0
Employers' Liability.....	154,039,402	946,048	·61	681,467	270,494	39·9
Essex and Suffolk.....	39,373,191	229,704	·58	92,944	43,872	47·0
General Accident Fire.....	73,153,627	484,273	·66	362,869	164,700	45·9
Guardian Assurance.....	167,592,672	1,472,966	·88	1,227,660	806,487	65·9
Guildhall.....	17,901,052	129,161	·72	95,379	90,970	95·0
Law Union and Rock.....	54,071,520	488,602	·90	394,831	239,224	60·9
Legal and General.....	11,593,488	91,553	·79	74,225	17,628	23·7
Liverpool and London and Globe.....	242,750,933	1,912,845	·79	1,210,671	697,287	57·9
Local Government.....	17,941,032	146,707	·82	76,335	34,889	45·7
London and Lancashire Ins.....	209,090,477	1,544,204	·74	1,256,751	593,660	47·2
London and Provincial.....	6,570,175	61,292	·93	48,717	23,482	48·3
London and Scottish.....	26,048,242	170,001	·65	112,405	42,469	37·9
London Assurance.....	78,675,265	606,861	·77	499,099	317,214	63·6
London Guarantee.....	64,643,049	540,320	·84	298,591	194,802	65·2
Marine.....	None	None	—	None	None	—
Merchants' Marine.....	50,480,277	291,597	·58	196,879	88,801	45·1
Motor Union.....	24,843,406	198,147	·80	124,573	114,812	92·1
National Provincial.....	26,945,765	217,266	·81	151,660	85,909	56·6
North British.....	183,190,842	1,368,617	·44	984,213	558,756	56·7
Northern Assurance.....	132,415,113	898,287	·68	665,299	343,983	51·7
Norwich Union.....	143,419,098	1,228,897	·86	911,688	564,368	61·9
Ocean Accident and Guarantee.....	65,391,415	535,170	·82	374,455	294,722	78·7
Palatine.....	57,347,035	460,568	·80	321,140	274,625	85·6
Patriotic.....	31,780,504	203,244	·64	138,046	142,013	102·8
Pearl.....	23,296,357	181,956	·78	137,027	73,773	53·8
Phoenix of London.....	278,952,425	2,253,649	·81	1,414,287	849,146	60·0
Planet.....	23,527,653	176,533	·75	107,261	56,974	53·1
Provincial.....	37,421,679	378,934	1·01	311,823	157,399	50·4
Prudential.....	136,467,954	769,188	·56	584,722	338,414	57·8
Queensland.....	40,993,042	289,844	·71	200,801	130,670	65·0
Railway Passengers'.....	10,492,779	78,180	·75	45,401	14,341	31·5
Royal Exchange.....	126,753,222	884,071	·70	639,838	377,292	58·9
Royal Insurance.....	399,343,349	3,238,179	·81	1,936,742	1,001,433	51·7
Royal Scottish.....	41,237,375	254,952	·62	167,037	135,973	81·4
Scottish Metropolitan.....	39,927,841	299,213	·75	195,166	109,927	56·3
Scottish Union.....	55,936,951	466,410	·83	400,898	227,194	56·6
Sea.....	32,333,452	208,572	·65	163,342	107,876	66·0
Southern.....	1,943,590	20,032	1·03	10,836	919	8·4
State Assurance.....	21,296,305	142,939	·67	102,821	43,228	42·6
Sun Insurance.....	147,048,647	1,101,840	·75	799,728	406,221	50·7
Union Assurance.....	86,332,974	662,775	·77	476,143	256,101	53·7
Union of Canton.....	76,600,214	468,397	·61	326,257	181,798	55·7
Union Marine.....	None	None	—	None	None	—
United British.....	19,540,378	139,524	·71	91,924	66,397	72·2
Westminster.....	6,111,109	36,775	·60	None	None	—
World Marine.....	32,866,487	145,580	·44	105,433	62,343	59·1
Yangtze.....	12,484,316	104,234	·83	81,947	108,203	132·0
Yorkshire.....	51,427,011	446,533	·87	348,979	200,584	57·4
Totals.....	4,517,521,928	33,643,406	·74	23,742,070	13,608,322	57·3
Foreign Companies.						
Ætna.....	93,365,839	569,663	·61	479,534	312,526	65·1
Agricultural.....	24,624,588	116,984	·48	77,303	38,888	50·3
Alliance Insurance.....	92,585,550	311,499	·34	141,717	86,920	61·3
American Alliance.....	2,995,760	32,827	1·10	23,732	14,708	61·9
American Central.....	20,285,963	214,107	1·06	129,391	92,678	71·6
American Colony.....	7,832,663	57,806	·74	43,873	49,116	111·9
American Equitable.....	12,346,661	116,429	·94	97,501	72,735	74·6
American Exchange.....	6,488,000	20,964	·32	19,298	68	·3
American Home Fire.....	41,568,974	140,601	·34	126,311	34,726	27·4
American Insurance.....	27,159,273	174,946	·64	101,052	73,013	72·2
American Reserve.....	11,392,840	101,531	·89	73,298	70,758	96·5
Automobile.....	None	None	—	None	None	—
Baloise.....	10,803,622	112,035	1·04	85,503	83,407	97·5
Boston.....	18,996,196	126,564	·67	78,957	49,893	63·1
Caledonian-American.....	11,043,638	108,761	·98	55,826	21,522	38·5
California.....	20,732,235	154,521	·75	114,624	66,552	58·0

2.—Fire Insurance Business Transacted in Canada, by Companies, 1930—continued.

Company.	Gross Amount of Risks Taken during Year.	Premiums Charged Thereon.	Rate of Pre- miums per cent of Risks.	Net Cash Received for Premiums.	Net Cash Paid for Losses.	Per- centage of Losses Paid to Pre- miums Re- ceived.
Foreign Companies— continued.	\$	\$	p. c.	\$	\$	p. c.
Camden.....	9,152,792	50,100	·55	32,011	19,273	60·21
Central Manufacturers'.....	4,662,285	59,891	1·28	46,473	46,498	100·01
Central Union.....	6,402,767	44,052	·69	13,306	2,106	15·83
Chicago Fire and Marine.....	27,091,588	317,054	1·17	215,561	34,048	15·80
Citizens of New Jersey.....	22,088,883	113,911	·52	48,064	34,520	71·82
City of New York.....	15,948,223	115,136	·72	None	None	—
Columbia.....	53,119,555	374,036	·70	59,156	31,759	53·69
Commercial Union of N. Y.....	2,169,240	24,266	1·12	13,097	6,330	48·33
Connecticut.....	55,805,661	395,869	·71	193,736	111,068	57·33
Continental.....	76,580,749	616,365	·80	484,829	254,191	52·43
Cosmopolitan.....	3,516,812	28,711	·82	25,192	7,699	30·56
Equitable Fire and Marine.....	25,943,588	177,786	·69	38,747	22,213	57·33
Federal.....	None	None	—	None	None	—
Fidelity American.....	4,373,213	54,843	1·25	39,538	45,426	114·89
Fidelity-Phenix.....	59,496,412	536,021	·90	431,011	321,352	74·56
Fire Association of Pa.....	64,546,511	504,524	·78	253,293	187,371	73·97
Fireman's Fund.....	36,311,544	277,482	·76	194,496	190,523	97·96
Firemen's Insurance.....	27,221,424	274,558	1·01	213,231	96,090	45·06
Fire Reassurance.....	35,629,657	232,945	·65	141,117	75,916	53·80
First American.....	14,643,603	135,169	·92	98,353	74,835	76·09
First National.....	23,734,300	176,319	·74	125,727	23,272	18·51
La Fonciere.....	22,609,308	231,586	1·02	182,674	96,780	52·98
Franklin.....	36,413,060	260,232	·71	None	None	—
General of Paris.....	22,123,172	193,274	·87	133,589	60,151	45·03
General Insurance of Amer.....	33,108,800	261,037	·79	105,116	56,367	53·62
Germanic.....	2,650,308	27,838	1·05	23,393	4,613	19·72
Girard.....	5,578,258	55,005	·99	40,522	27,299	67·37
Glens Falls.....	43,154,578	273,109	·63	178,467	120,763	67·67
Globe and Rutgers.....	176,208,491	1,197,325	·68	781,090	398,305	50·99
Granite State.....	5,399,263	43,449	·81	30,740	14,594	47·48
Great American.....	75,731,367	546,971	·72	389,929	281,500	72·19
Hanover.....	30,620,749	176,446	·58	102,846	53,384	51·91
Hardware Dealers'.....	21,710,852	444,189	2·05	358,034	174,986	48·87
Hartford Fire.....	150,367,937	1,066,696	·71	939,853	419,230	44·61
Home.....	282,589,587	2,318,006	·82	1,871,856	985,259	52·64
Home Fire of California.....	2,029,428	20,279	1·00	16,597	4,233	25·50
Homestead.....	7,195,113	54,522	·76	None	None	—
Imperial Assurance.....	48,831,158	363,146	·74	108,221	50,913	47·05
Independence.....	7,013,900	69,651	·99	55,542	29,222	52·61
Insurance Co. of N. A.....	137,948,457	839,806	·61	643,067	511,772	79·58
Insurance Co. of State of Pa.....	40,170,943	250,431	·62	143,116	129,213	90·29
La Salle.....	853,557	3,871	·45	3,511	8	0·21
Lincoln.....	7,305,476	55,058	·75	27,485	23,013	83·73
Lumbermen's Insurance.....	14,805,220	125,463	·85	104,819	80,583	76·88
Lumbermen's Mutual Ins.....	5,860,700	85,759	1·46	67,906	57,908	85·28
Maryland Insurance.....	11,963,550	123,363	1·03	95,422	81,072	84·96
Mechanics' and Traders'.....	1,331,850	21,240	1·59	15,773	4,531	28·73
Merchants' and Manufactur- ers'.....	8,153,468	86,491	1·06	60,651	78,324	129·14
Merchants' Fire.....	35,157,447	306,410	·87	267,925	134,639	50·25
Mercury.....	22,596,435	141,636	·63	102,534	99,242	96·79
Michigan Fire.....	5,388,857	37,789	·70	24,620	7,333	29·78
Millers' National.....	15,033,540	160,659	1·07	142,621	96,385	67·58
Mill Owners' Mutual.....	26,111,061	383,383	1·47	275,217	221,938	80·64
Milwaukee Mechanics'.....	832,742	7,579	·91	4,479	24,933	556·66
Minnesota Fire.....	8,171,130	105,886	1·30	None	20,856	—
Minnesota Implement.....	21,710,852	444,188	2·05	358,034	174,986	48·87
National-Ben Franklin.....	30,648,229	331,129	1·08	255,672	153,734	60·13
National Fire of Hartford.....	82,948,128	594,755	·72	433,155	195,018	45·02
National Guaranty.....	13,254,166	206,987	1·56	None	152,200	—
National Liberty.....	2,744,064	27,654	1·01	None	None	—
National Union.....	34,793,038	177,023	·51	131,586	92,592	70·37
La Nationale.....	65,250,899	719,396	1·10	588,896	387,932	65·87
Newark.....	41,496,666	362,766	·87	137,650	71,737	52·12
New Brunswick.....	37,140,412	141,009	·38	None	None	—
New Hampshire.....	27,885,742	236,432	·85	156,167	106,631	68·28
New Jersey.....	6,428,800	52,334	·81	39,168	34,535	87·54
New York Fire.....	14,605,560	143,687	·98	121,203	50,694	41·83
New York Underwriters.....	67,174,464	477,086	·71	47,561	22,936	48·22
Niagara.....	37,071,595	272,843	·74	210,346	143,629	68·28

2.—Fire Insurance Business Transacted in Canada, by Companies, 1930—concluded

Company.	Gross Amount of Risks Taken during Year.	Premiums Charged Thereon.	Rate of Premiums per cent of Risks.	Net Cash Received for Premiums.	Net Cash Paid for Losses.	Percentage of Losses Paid to Premiums Received.
Foreign Companies—concluded.	\$	\$	p.c.	\$	\$	p.c.
North River.....	39,771,578	196,267	.49	116,325	59,981	51.50
Northwestern Mutual.....	75,840,794	1,239,786	1.63	937,232	491,221	52.41
Northwestern National.....	33,131,722	366,303	1.11	234,713	86,483	36.85
Ohio Farmers'.....	3,918,840	53,855	1.37	14,051	13,111	93.31
Pacific Fire.....	46,077,388	365,967	.79	300,104	184,336	61.42
Phenix of Paris.....	21,862,912	196,021	.90	131,783	63,201	47.96
Philadelphia Fire.....	1,194,973	18,088	1.51	14,858	30	.20
Phenix of Hartford.....	97,398,424	688,534	.71	321,048	184,055	57.33
Pilot Reinsurance.....	1,185,334	4,962	.42	3,371	1,389	41.19
Providence Washington.....	44,152,442	263,826	.60	128,955	102,392	79.40
Provident of Paris.....	3,967,544	50,319	1.27	29,533	23,436	59.28
Queen of America.....	153,272,995	1,375,827	.90	621,956	338,322	54.44
Republic.....	7,073,730	69,089	.98	54,620	37,852	69.30
Retail Hardware.....	21,710,852	444,189	2.05	358,034	174,986	48.82
Rhode Island.....	15,108,604	87,740	.58	59,268	36,011	60.76
Rossia.....	58,295,578	394,180	.68	272,555	163,447	59.92
"Rossia" of Copenhagen.....	28,015,459	141,963	.51	73,583	46,928	63.75
St. Paul Fire.....	58,700,352	403,636	.69	268,621	136,083	50.66
Security.....	25,758,307	176,353	.68	102,715	52,481	51.05
Sentinel.....	14,980,207	92,866	.62	12,121	6,817	56.22
Springfield.....	74,110,323	518,770	.70	319,500	208,360	65.22
Stuyvesant.....	37,213,872	372,712	1.00	297,706	156,625	52.63
Sussex.....	8,475,874	81,825	.97	70,212	39,455	56.19
Svea.....	5,865,541	45,336	.77	35,289	32,126	91.04
Tokio.....	13,127,451	84,784	.65	47,560	52,208	109.7
Travelers' Fire.....	6,057,142	39,051	.64	33,881	8,961	26.49
L'Union of Paris.....	43,160,177	348,691	.81	267,103	177,430	66.42
United Firemen's.....	None	None	—	None	None	—
United Mutual.....	9,916,759	147,368	1.49	91,098	57,491	63.11
United States Fire.....	69,494,277	476,660	.69	366,089	189,713	51.83
United States Merchants'.....	None	None	—	None	None	—
Universal.....	19,992,630	126,777	.63	86,964	54,936	63.1
Virginia Fire.....	2,369,264	17,778	.75	10,234	4,470	43.6
Westchester.....	39,878,940	270,291	.68	165,585	94,851	57.2
World Fire.....	19,700,150	158,465	.80	123,009	76,159	61.9
Totals for 1930.....	3,869,613,421	30,711,429	.79	20,071,587	11,943,323	59.5

3.—Assets of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Assets in Canada of Companies other than Canadian Transacting such Business in Canada, 1926-30.

Item.	1926.	1927.	1928.	1929.	1930.
Canadian Companies.	\$	\$	\$	\$	\$
Real estate.....	2,984,391	3,213,096	2,827,672	2,425,285	2,511,565
Loans on real estate.....	3,414,679	4,223,583	3,492,620	3,229,804	1,778,065
Stocks, bonds and debentures.....	30,485,388	34,129,480	40,093,447	46,724,485	48,499,281
Agents' balances and premiums outstanding.....	3,490,442	3,803,900	4,161,359	4,272,065	4,388,131
Cash on hand and in banks ¹	3,724,742	4,415,976	5,671,692	4,937,126	4,735,111
Interest and rents.....	587,756	511,184	491,439	531,186	559,823
Other assets.....	905,051	1,354,994	3,876,826	4,863,564	4,879,222
Totals, Assets.....	45,592,449	51,652,213	60,615,055	66,983,515	67,351,000
British Companies.					
Real estate.....	2,998,810	3,045,860	2,968,944	2,998,944	3,006,944
Loans on real estate.....	3,036,956	2,876,538	2,882,435	2,570,318	2,256,318
Stocks, bonds and debentures.....	39,184,015	40,732,091	41,684,149	43,887,793	46,793,581
Agents' balances and premiums outstanding.....	4,382,098	4,557,720	5,298,183	5,394,016	5,039,777
Cash on hand and in banks ¹	4,223,724	5,174,714	5,493,843	5,664,481	5,077,841
Interest and rents.....	340,774	333,437	330,155	329,998	323,811
Other assets in Canada.....	642,897	744,365	915,458	770,214	1,098,011
Totals, Assets in Canada.....	54,809,274	57,464,725	59,603,167	61,615,764	63,596,311

¹Or deposited with Government.

3.—Assets of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Assets in Canada of Companies other than Canadian Transacting such Business in Canada, 1926-30—concluded.

Item.	1926.	1927.	1928.	1929.	1930.
Foreign Companies.					
Real estate.....	—	—	—	—	—
Loans on real estate.....	14,500	13,000	23,000	13,000	13,000
Stocks, bonds and debentures.....	27,184,299	28,785,813	29,292,566	31,244,947	35,828,399
Agents' balances and premiums outstanding.....	2,906,791	2,908,472	3,439,315	3,428,161	3,534,565
Cash on hand and in banks ¹	5,190,968	5,491,382	6,022,316	7,014,035	5,730,878
Interest and rents.....	277,624	296,850	301,816	328,536	378,566
Other assets in Canada.....	111,747	77,159	110,305	133,228	187,056
Totals, Assets in Canada.....	35,685,929	37,572,676	39,189,318	42,161,907	45,672,464
All Companies.					
Real estate.....	5,983,201	6,258,956	5,826,616	5,424,229	5,518,502
Loans on real estate.....	6,466,135	7,113,121	6,398,055	5,813,122	4,047,467
Stocks, bonds and debentures.....	96,853,702	103,647,384	111,070,162	121,857,224	131,121,215
Agents' balances and premiums outstanding.....	10,779,331	11,270,092	12,898,857	13,094,242	12,962,442
Cash on hand and in banks ¹	13,139,434	15,082,072	17,187,851	17,615,642	15,543,848
Interest and rents.....	1,206,154	1,141,471	1,123,410	1,189,720	1,261,978
Other assets in Canada.....	1,659,695	2,176,518	4,902,589	5,767,006	6,164,401
Totals, Assets in Canada.....	136,087,652	146,689,614	150,497,540	170,761,185	176,619,853

¹ Or deposited with Government.

4.—Liabilities of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Liabilities in Canada of Companies other than Canadian Transacting such Business in Canada, 1926-30.

Item.	1926.	1927.	1928.	1929.	1930.
Canadian Companies.					
Unsettled losses.....	\$ 3,451,325	\$ 3,939,126	\$ 4,484,577	\$ 5,074,467	\$ 5,236,160
Reserve of unearned premiums.....	12,669,558	13,699,112	14,090,785	15,578,583	15,461,848
Sundry items.....	4,619,584	5,095,002	5,828,080	6,122,091	6,359,644
Totals, Liabilities, not including Capital.....	20,740,467	22,733,240	24,403,442	26,775,141	27,057,652
Excess of assets over liabilities, excluding capital.....	24,851,981	28,918,973	36,211,613	40,208,374	40,293,387
Capital stock paid up.....	13,653,915	15,003,316	17,020,855	17,304,479	17,383,197
British Companies.					
Unsettled losses.....	2,911,182	3,379,385	4,354,948	5,639,411	5,529,407
Reserve of unearned premiums.....	18,955,408	19,457,735	20,742,422	21,901,257	20,782,701
Sundry items.....	1,310,328	1,495,409	1,548,825	1,606,263	1,821,925
Totals, Liabilities in Canada.....	23,176,918	24,332,529	26,616,195	29,146,931	28,134,033
Excess of assets over liabilities, excluding capital.....	31,632,356	33,132,196	32,956,975	32,468,833	85,462,316
Capital stock paid up.....	—	—	—	—	—
Foreign Companies.					
Unsettled losses.....	1,538,817	1,176,847	1,589,302	2,161,713	2,303,806
Reserve of unearned premiums.....	12,229,515	12,182,168	12,811,246	13,509,480	13,254,976
Sundry items.....	702,759	855,414	901,078	950,737	996,381
Totals, Liabilities in Canada.....	14,471,091	14,214,429	15,301,626	16,621,930	16,555,163
Excess of assets over liabilities, excluding capital.....	21,207,810	23,358,248	23,887,692	25,538,977	29,117,300
Capital stock paid up.....	—	—	—	—	—
All Companies.					
Unsettled losses.....	7,901,324	8,495,358	10,428,827	12,875,591	13,069,373
Reserve of unearned premiums.....	43,854,481	45,339,015	47,644,453	50,989,320	49,499,525
Sundry items.....	6,632,671	7,445,825	8,277,983	8,679,091	9,177,950
Totals, Liabilities in Canada, not including Capital.....	58,388,476	61,280,198	66,351,263	72,544,002	71,746,848
Excess of assets over liabilities, excluding capital.....	77,692,147	85,409,417	93,056,280	98,216,184	154,873,003
Capital stock paid up ¹	13,653,915	15,003,316	17,020,855	17,304,479	17,383,197

¹ Canadian companies only.

5.—Income and Expenditure of Canadian Companies Selling Fire Insurance, or Fire Insurance and other classes of Insurance, and Income and Expenditure in Canada of Companies other than Canadian Transacting such Business in Canada, 1926-30.

Item.	1926.	1927.	1928.	1929.	1930.
INCOME.	\$	\$	\$	\$	\$
Canadian Companies.					
Net written premiums, fire and other insurance.....	21,558,094	23,270,427	26,403,345	29,535,545	28,685,768
Interest and dividends earned.....	1,790,416	1,944,324	2,234,407	2,755,933	2,848,593
Sundry items.....	2,766,588	3,661,198	7,107,357	3,974,197	1,464,670
Totals, Income.....	26,115,098	28,875,949	35,745,109	36,265,675	32,998,455
British Companies.¹					
Net cash for premiums.....	34,066,853	35,291,010	38,947,220	40,058,966	36,695,357
Interest and dividends on stocks, etc....	1,780,317	1,772,275	1,827,283	1,814,056	1,864,556
Sundry items.....	15,808	5,698	1,301	149	1,022
Totals, Income.....	35,862,978	37,068,983	40,775,804	41,873,171	38,561,335
Foreign Companies.¹					
Net premiums written.....	23,703,863	24,146,575	26,483,893	26,186,699	25,194,339
Interest and dividends earned, etc.....	1,345,137	1,425,276	1,484,347	1,426,353	1,538,774
Sundry items.....	105	149	3,330	6,147	1,988
Totals, Income.....	25,049,105	25,572,000	27,971,570	27,619,199	26,735,699
EXPENDITURE.					
Canadian Companies.					
Incurred for losses (fire).....	6,571,218	5,722,354	6,663,317	7,657,105	8,295,490
General expenses.....	6,413,729	6,032,664	7,971,270	8,121,625	8,796,488
On account of branches other than Fire or Life.....	8,838,138	10,312,567	11,924,618	13,585,866	14,833,969
Dividends or bonus to shareholders.....	829,380	1,193,634	1,292,586	1,491,558	1,480,350
Taxes.....	588,035	690,145	706,940	735,357	822,900
Totals, Expenditure.....	23,244,547²	23,953,781²	28,558,731	31,591,511	33,729,202
Excess of income over expenditure.....	2,870,551	4,922,137	7,186,378	4,674,164	-730,757
British Companies.¹					
Incurred for losses (fire).....	11,881,784	10,095,057	12,067,465	14,237,389	13,608,320
General expenses.....	9,455,705	9,402,303	9,817,151	10,579,134	10,154,555
On account of branches other than Fire or Life.....	8,244,434	11,205,796	13,174,461	12,639,292	12,176,230
Taxes.....	1,116,005	1,178,706	1,256,920	917,127	953,010
Totals, Expenditure.....	30,697,928	31,881,862	36,315,997	38,372,942	36,892,115
Excess of income over expenditure.....	5,165,050	5,187,121	4,459,807	3,500,229	1,669,220
Foreign Companies.¹					
Incurred for losses (fire).....	10,487,474	7,910,486	9,673,734	11,459,589	11,943,300
General expenses.....	6,770,930	6,761,904	7,222,292	7,758,349	7,824,280
On account of branches other than Fire or Life.....	3,543,059	5,522,964	7,678,034	5,003,936	6,472,400
Taxes.....	845,559	883,216	920,976	743,442	724,440
Totals, Expenditure.....	22,392,262	21,863,853³	25,495,036	24,965,316	26,964,420
Excess of income over expenditure.....	2,656,843	3,708,147	2,476,534	2,653,883	-229,300

¹ Income and expenditure in Canada.

² Including \$4,047 profits returned to subscribers in 1926 and \$2,417 in 1927.

³ Includes several small amounts of profits returned to subscribers.

6.—Amount of Net Premiums Written and Net Losses Incurred in Canada, by Provinces, by Canadian, British and Foreign Companies Transacting Fire Insurance Business, 1929 and 1930.

(Licensed re-insurance deducted.)

Province.	Canadian.		British.		Foreign.	
	Premiums.	Losses.	Premiums.	Losses.	Premiums.	Losses.
	\$	\$	\$	\$	\$	\$
1929.						
P.E. Island.....	38,085	36,184	150,844	156,121	74,760	213,781
Nova Scotia.....	469,824	250,657	1,009,134	515,282	985,654	430,201
New Brunswick.....	321,645	195,643	1,020,244	612,903	782,707	575,087
Quebec.....	2,456,735	1,213,100	6,426,982	3,241,195	5,322,927	2,604,162
Ontario.....	3,439,382	1,718,026	8,996,737	5,155,748	6,389,140	3,498,975
Manitoba.....	1,014,204	431,559	1,821,377	711,312	1,452,292	604,374
Saskatchewan.....	1,720,976	952,239	1,829,579	1,101,339	1,789,889	1,104,902
Alberta.....	1,173,139	650,150	1,907,954	1,163,088	1,804,928	1,160,943
British Columbia.....	915,089	391,278	2,970,324	1,580,279	2,196,079	1,266,763
Yukon.....	672	5,508	2,029	62	3,236	400
Totals¹.....	11,553,389	5,850,348	26,200,073	14,237,386	20,837,518	11,459,588
1930.						
P.E. Island.....	41,077	12,441	164,297	61,588	78,890	47,568
Nova Scotia.....	426,883	213,094	930,672	422,953	886,290	443,416
New Brunswick.....	312,530	215,944	971,969	539,197	728,825	534,308
Quebec.....	2,356,429	1,459,004	5,835,801	3,731,087	5,229,699	3,267,135
Ontario.....	3,286,646	1,898,913	8,139,364	4,470,229	6,213,876	3,813,811
Manitoba.....	1,290,390	652,234	1,577,502	834,441	1,383,563	702,233
Saskatchewan.....	1,536,786	906,454	1,542,947	893,841	1,601,478	840,052
Alberta.....	999,218	627,874	1,697,249	873,843	1,759,674	927,133
British Columbia.....	941,772	487,754	2,771,402	1,776,044	2,180,837	1,373,565
Yukon.....	2,378	18,798	6,245	5,062	4,023	101
Totals¹.....	11,194,969	6,466,650	23,742,071	13,698,325	20,071,587	11,943,322

¹ Totals include in many cases small items unapportioned by provinces.

Summary of Fire Insurance in Canada, 1930.—Of the total amount of fire insurance effected in Canada during each year, a part is sold by companies holding provincial licences and permits. Such companies generally confine their operations to the province from which they derive authority to operate, but may be allowed, at the same time, to sell insurance in other provinces. The bulk of fire insurance business, however, is that done by Dominion licensees. Operations in 1930 are summarized in Table 7. Business transacted by unlicensed companies is summarized in Table 8.

7.—Dominion and Provincial Fire Insurance in Canada, 1930.

Item.	Net Insurance Written.	Net in Force at end of year.	Net Premiums Received.	Net Losses Paid.
	\$	\$	\$	\$
1. Dominion Licensees.....	10,311,193,608	9,672,916,973	52,646,520	30,427,968
2. Provincial Licensees—				
(a) Provincial Companies within province by which they are incorporated.....	501,162,027	1,290,302,102	5,505,600	3,953,833
(b) Provincial Companies within provinces other than those by which they are incorporated.....	34,449,472	54,883,445	351,426	320,456
Totals, Provincial Licensees.....	535,611,499	1,345,185,547	5,857,026	4,274,289
Grand Totals.....	10,846,805,107	11,018,182,520	58,503,546	34,702,257

8.—Fire Insurance Carried on Property in Canada in 1929, under Section 129 of the Insurance Act, 1917, by Companies, Associations or Underwriters not Licensed to Transact Business in Canada.

Amount by Classes of Insurers.

	\$
Lloyd's Associations.....	199,830,527
Reciprocal Underwriters.....	147,307,077
Mutual Companies.....	602,364,485
Stock Companies.....	56,355,323
Total.....	1,005,857,392

Amount by Description of Properties Insured.

	\$
Lumber and Lumber Mills.....	21,273,507
Industrial Plants and Mercantile Establishments.....	970,226,236
Railway Property and Equipment.....	8,175,000
Miscellaneous.....	6,182,549
Total.....	1,005,857,392

Amount by Province.

	\$		\$
Prince Edward Island.....	37,275	Saskatchewan.....	144,176,044
Nova Scotia.....	7,704,435	Alberta.....	5,608,418
New Brunswick.....	30,328,989	British Columbia.....	26,315,065
Quebec.....	271,846,741	Yukon.....	—
Ontario.....	394,558,883	Total.....	1,005,857,392
Manitoba.....	21,076,567		

¹Includes \$104,204,984 unapportioned by provinces.

Section 2.—Life Insurance.

An article descriptive of the growth of life insurance in Canada, contributed by A. D. Watson, Esq., of the Department of Insurance, Ottawa, appeared on pp. 860-864 of the Canada Year Book, 1925.

Life Insurance Statistics.—The business of life insurance was carried on in Canada in 1930 by 42 active Dominion companies, including 28 Canadian, 6 British and 8 foreign companies. In addition there were 6 British and 5 foreign companies licensed to write insurance but which had ceased to write new insurance, while 4 other British and 4 other foreign companies were authorized under the Act to transact business in connection with policies written prior to Mar. 31, 1878. One other foreign company was licensed to transact business in 1926, but has written no life insurance business in Canada except one group policy which was written in 1928 but lapsed before the close of the year.

As shown by the historical statistics of Table 9, the life insurance business in Canada has expanded from very small beginnings, the total net life insurance in force in all companies operating under Dominion licences in 1869 being only \$35,680,082 while in 1931 it was \$6,622,556,490,² the amount per head of the esti-

²Preliminary figures. This total does not include \$183,466,539 of fraternal insurance.

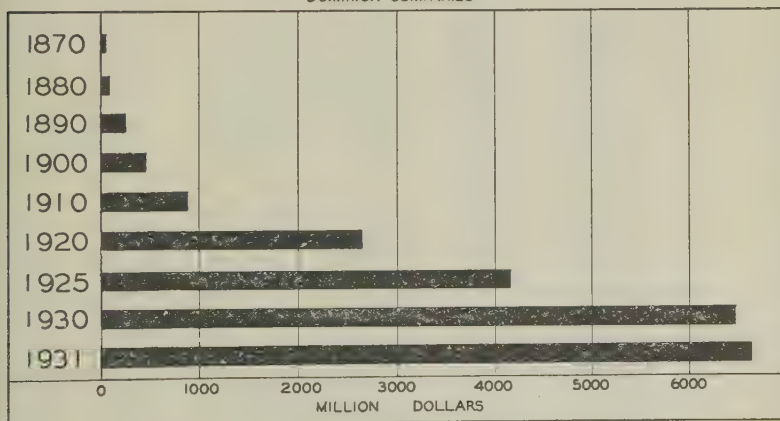
mated population of Canada having more than doubled since 1920—an evidence of the general recognition of the fact that, in view of the high cost of living, a larger amount of life insurance is necessary for the adequate protection of dependants. Notable also from these historical statistics is the fact that in this field the British companies, which were the leaders in 1869, have fallen far behind the Canadian and the foreign companies. The total net amount of new insurance effected during the year 1930 was \$884,754,248¹, as compared with \$978,141,485 in 1929, \$918,742,064 in 1928, \$838,475,057 in 1927 and \$797,940,009 in 1926, while the premiums paid were \$220,529,911, as compared with \$210,728,479 in 1929, \$192,945,783 in 1928, \$173,732,359 in 1927 and \$159,872,965 in 1926.

The following diagram shows the rapid increase of life insurance in force in companies operating under Dominion licences between 1870 and 1931. Preliminary figures for 1931 show an increase of \$130,127,814 in the year.

LIFE INSURANCE IN FORCE IN CANADA

1870 - 1931

DOMINION COMPANIES



In Table 10 detailed statistics are given of the business of Canadian, British and foreign companies respectively, by companies, in 1930, while Table 11 is a summary showing the business of Canadian, British and foreign companies for the past 5 years. Table 12 shows the ordinary and industrial policies in force and effected during the year ended Dec. 31, 1930. Table 13 gives the insurance death-rate by classes of companies, and Tables 14, 15 and 16 show respectively the assets, liabilities, cash income and expenditure of Canadian and other life insurance companies for the years 1926 to 1930. Statistics of Dominion fraternal insurance are given in Table 17 and of Dominion and provincial insurance combined in Table 18, which shows that on Dec. 31, 1930, the total life insurance in force in Canada was \$6,868,307,415.

¹In 1931 the new insurance effected was \$782,727,564 and the total net insurance premiums paid were \$225,152,008, according to preliminary figures.

9.—Life Insurance In Force and Effected in Canada, by Years, 1869-1931.¹

Year.	Net Amount in Force.				Insurance In Force per Head of Estimated Population.	Net Amount of New Insurance Effected during Year.
	Canadian Companies.	British Companies.	Foreign Companies.	Total.		
	\$	\$	\$	\$	\$	\$
1869.....	5,476,358	16,318,475	13,885,249	35,680,082	10-45	12,854,130 ²
1870.....	6,404,437	17,391,922	18,898,353	42,694,712	12-36	12,194,696
1871.....	8,711,111	18,405,325	18,709,499	45,825,935	13-15	13,332,626
1872.....	13,070,811	19,258,166	34,905,707	67,234,684	18-62	21,070,101
1873.....	15,777,197	18,862,191	42,861,508	77,500,896	21-13	21,053,613
1874.....	19,634,319	19,863,867	46,218,139	85,716,325	22-41	19,108,221
1875.....	21,957,296	19,455,607	43,596,361	85,009,264	21-87	15,074,253
1876.....	24,649,284	18,873,173	40,728,461	84,250,918	21-33	13,890,127
1877.....	26,870,224	19,349,204	39,468,475	85,687,903	21-35	13,534,667
1878.....	28,656,556	20,078,533	36,016,848	84,751,937	20-78	12,169,785
1879.....	33,246,543	19,410,829	33,616,330	86,273,702	20-81	11,354,224
1880.....	37,838,518	19,789,863	33,643,745	91,272,126	21-65	13,906,887
1881.....	46,041,591	20,983,092	36,266,249	103,290,932	23-88	17,618,011
1882.....	53,855,051	22,329,368	38,857,629	115,042,048	26-24	20,112,755
1883.....	59,213,609	23,511,712	41,471,554	124,196,875	28-02	21,572,960
1884.....	66,519,958	24,317,172	44,616,596	135,453,726	30-20	23,303,412
1885.....	74,591,139	25,930,272	49,440,735	149,962,164	33-04	26,767,488
1886.....	88,181,859	27,225,607	55,908,230	171,315,696	37-33	34,800,563
1887.....	101,796,754	28,163,329	61,734,187	191,694,270	41-33	37,381,810
1888.....	114,034,279	30,003,210	67,724,094	211,761,583	45-17	40,923,529
1889.....	125,125,692	30,488,618	76,349,392	231,963,702	48-94	43,912,187
1890.....	135,218,990	31,613,730	81,591,847	248,424,567	51-83	39,802,956
1891.....	143,368,817	32,407,937	85,698,475	261,745,229	54-10	37,609,287
1892.....	154,709,077	33,692,706	90,708,482	279,110,265	57-09	44,062,440
1893.....	167,475,872	33,543,884	94,602,966	295,622,722	59-89	44,802,847
1894.....	177,511,846	33,911,885	96,737,705	308,161,436	62-96	49,111,010
1895.....	188,326,057	34,341,172	96,590,352	319,257,581	63-42	44,101,898
1896.....	195,303,042	34,837,448	97,660,009	327,800,499	64-45	42,293,322
1897.....	208,655,459	35,293,134	100,063,684	344,012,277	66-90	47,710,165
1898.....	226,209,636	36,606,195	105,708,154	368,523,985	70-88	54,387,303
1899.....	252,201,516	38,025,948	113,943,209	404,170,673	76-85	66,184,063
1900.....	267,151,086	39,485,344	124,433,416	431,069,846	81-00	67,729,115
1901.....	284,684,621	40,216,186	138,868,227	463,769,034	86-34	72,854,859
1902.....	308,202,596	41,556,245	159,053,464	508,812,305	91-98	79,638,919
1903.....	335,638,940	42,127,260	170,676,800	548,443,000	96-99	90,732,415
1904.....	364,640,166	42,608,738	180,631,886	587,880,790	100-92	97,617,402
1905.....	397,946,902	43,809,211	188,578,127	630,334,240	105-20	104,719,585
1906.....	420,864,847	45,655,951	189,740,102	656,260,900	106-35	93,722,510
1907.....	450,573,724	46,462,314	188,487,447	685,523,485	108-78	88,784,250
1908.....	480,266,931	46,161,957	193,087,126	719,516,014	110-85	98,644,410
1909.....	515,415,437	46,985,192	217,956,351	780,356,980	116-56	130,122,008
1910.....	565,667,110	47,816,775	242,629,174	856,113,059	123-77	150,785,305
1911.....	626,770,154	50,919,675	272,530,942	950,220,771	131-85	173,341,738
1912.....	706,656,117	54,537,725	309,114,827	1,070,308,669	145-32	212,772,151
1913.....	750,637,902	58,176,795	359,775,330	1,168,590,027	155-25	225,606,787
1914.....	794,520,423	60,770,658	386,869,397	1,242,160,478	161-47	212,977,464
1915.....	829,972,809	58,087,018	423,556,850	1,311,616,677	166-83	218,205,427
1916.....	895,528,435	59,151,931	467,499,266	1,422,179,632	176-99	227,210,162
1917.....	996,699,282	58,617,506	529,725,775	1,585,042,563	193-77	277,532,095
1918.....	1,105,503,447	60,296,113	619,261,713	1,785,061,273	214-33	307,279,759
1919.....	1,362,631,562	66,908,064	758,297,691	2,187,837,317	258-04	517,863,639
1920.....	1,664,348,605	76,883,090	915,793,798	2,657,025,493	307-83	630,110,960
1921.....	1,860,026,952	84,940,938	989,875,958	2,934,843,848	333-94	514,654,111
1922.....	2,013,722,848	93,791,180	1,063,874,968	3,171,388,996	355-53 ³	502,279,323
1923.....	2,187,434,147	98,023,020	1,148,051,506	3,433,508,673	381-12 ³	548,640,800
1924.....	2,413,853,480	103,519,236	1,246,623,756	3,763,996,472	411-73 ³	615,372,723
1925.....	2,672,989,676	108,565,248	1,377,464,924	4,159,019,848	447-54 ³	712,091,889
1926.....	2,979,946,768	111,375,336	1,518,874,230	4,610,196,334	487-85 ³	797,904,000
1927.....	3,277,050,348	113,883,716	1,653,474,770	5,044,408,834	523-55 ³	838,475,057
1928.....	3,671,325,188	115,340,577	1,820,979,858	5,607,645,623	570-29 ³	918,742,064
1929.....	4,051,612,499	116,545,637	1,989,104,071	6,157,262,207	614-07 ³	978,141,485
1930.....	4,319,432,191	117,494,360	2,055,502,125	6,492,428,676	636-14 ³	884,754,249
1931 ¹	4,409,707,938	119,259,988	2,093,583,564	6,622,556,490	638-38	782,727,567

¹Figures do not include insurance in force and effected by Fraternal Societies operating under Dominion charters. The amount of insurance in force in such societies amounted to \$183,466,589 in 1931 according to preliminary figures. Corresponding figures for the years 1926-30 are given in Table 17, pp. 817-18.

²Preliminary figures.

³For estimates of populations upon which these figures are based see p. 110.

10.—Life Insurance In Force and Effectd in Canada, by Companies, 1930.

Company.	Policies Issued.		Policies in Force.		Net Premium Income.	Net Amount of Policies become Claims. ¹
	No.	Net Amount.	No.	Net Amount.		
Canadian Companies—		\$		\$	\$	\$
Canada.....	12,630	41,563,434	135,978	429,477,421	14,086,082	4,116,360
Capital.....	1,759	2,733,723	11,624	19,632,494	549,039	108,581
Columbia.....	71	105,750	223	341,860	7,316	—
Commercial.....	687	1,612,208	5,045	10,735,519	328,695	36,500
Confederation.....	12,816	28,508,020	108,980	217,983,588	7,522,676	2,059,536
Continental.....	2,826	5,489,010	23,617	38,520,725	1,239,609	344,891
Crown.....	6,874	15,834,353	50,225	105,070,092	3,288,161	600,192
Dominion.....	7,177	19,180,641	59,839	132,420,507	4,511,852	962,888
Dominion of Canada.....	742	1,324,593	3,809	6,551,587	181,080	15,070
T. Eaton.....	2,308	5,094,930	11,979	23,632,585	825,741	76,202
Excelsior.....	4,708	11,207,158	48,258	92,824,915	2,879,519	730,319
Great West.....	22,543	50,120,577	235,952	530,250,538	17,398,867	3,871,839
Imperial.....	8,840	25,381,983	90,290	218,900,296	7,886,668	1,669,927
London.....	118,159	102,008,188	525,137	439,645,600	12,975,943	2,518,277
Manufacturers'.....	15,112	33,716,476	132,715	276,096,513	9,163,321	2,138,167
Maritime.....	669	1,280,914	2,970	5,859,035	141,956	18,464
Monarch.....	3,494	6,719,000	33,235	61,557,215	1,626,064	311,982
Montreal.....	3,537	8,302,210	18,599	35,652,774	1,164,732	296,463
Mutual of Canada.....	18,509	50,069,843	195,253	453,407,942	16,973,553	4,271,332
National of Canada.....	3,901	8,076,864	28,143	55,424,893	1,713,374	395,183
North American.....	6,687	16,722,897	82,095	167,509,376	5,936,088	1,532,752
Northern.....	4,889	7,053,037	35,228	56,169,687	1,758,395	471,185
Royal Guardians.....	1,763	1,020,400	7,320	4,290,606	141,448	81,398
Saskatchewan.....	834	1,144,892	9,657	14,244,442	324,938	35,600
Sauvageard.....	2,992	4,088,520	20,853	29,150,553	876,039	223,675
Sovereign.....	1,483	2,850,625	15,151	29,120,039	853,845	159,429
Sun.....	41,578	142,252,794	275,838	856,111,593	27,480,129	7,721,575
Western.....	904	1,240,250	5,359	8,846,796	227,760	38,000
Totals.....	308,492	594,709,290	2,173,372	4,319,432,191	142,062,890	34,803,687
British Companies—						
Commercial Union.....	3	7,000	97	416,584	11,337	70,466
Edinburgh ²	—	—	2	2,991	19	—
Gresham ²	—	—	1,298	2,827,639	113,136	30,802
Life Association of Scotland ²	—	—	27	46,480	1,790	10,273
Liverpool and London and Globe ²	—	—	93	168,967	4,417	4,180
London and Scottish.....	514	1,118,609	7,602	17,464,889	696,723	374,913
Mutual Life and Citizens (Australia).....	12,769	5,311,554	109,883	33,297,224	1,293,068	185,892
North British and Mercantile ²	—	—	299	1,167,243	43,552	81,505
Norwich Union ²	—	—	38	49,532	997	697
Phoenix of London.....	49	153,339	1,820	6,783,783	196,399	268,113
Prudential of London.....	59	150,500	86	236,000	5,818	—
Royal.....	380	1,811,655	5,808	24,679,763	1,613,147	277,396
Scottish Amicable ²	—	—	5	8,248	169	3,675
Scottish Provident ²	—	—	1	2,560	31	—
Standard.....	762	2,216,446	10,921	30,290,820	946,509	646,964
Star ²	—	—	29	51,637	757	8,687
Totals.....	14,536	10,769,103	138,009	117,494,360	4,927,869	1,963,563
Foreign Companies—						
Etna.....	1,494	9,003,196	16,781	97,049,295	2,257,996	1,087,906
Connecticut General.....	—	—	—	—	—	—
Connecticut Mutual ²	—	—	2	3,000	65	1,742
Equitable.....	8	16,500	9,220	25,623,937	788,218	492,170
Guardian.....	1	2,000	43	179,298	7,830	1,754
Metropolitan.....	330,676	144,943,706	2,784,444	994,025,679	37,592,280	6,873,207
Mutual of New York.....	2,619	6,448,228	30,396	81,636,639	2,920,215	1,019,433
National of United States ²	—	—	9	3,517	—	1,399
New York.....	7,923	18,054,700	86,355	197,286,689	6,757,926	1,812,533
Northwestern Mutual ²	—	—	16	15,022	49	2,368
Occidental.....	154	705,500	4,326	9,815,550	207,798	113,542
Phoenix Mutual ²	—	—	50	28,421	251	4,071
Provident Savings ²	—	—	219	330,812	6,576	15,000
Prudential.....	202,508	82,974,557	1,457,018	499,121,958	19,453,022	3,245,414
State.....	5	50,225	303	1,459,170	21,715	109,555
Travelers of Hartford.....	3,072	16,757,743	29,690	140,706,191	3,248,064	941,601
Union Mutual.....	107	262,500	3,170	7,509,574	256,494	126,774
United States.....	11	57,000	231	707,373	20,653	10,655
Totals.....	548,578	279,275,855	4,422,273	2,055,502,125	73,539,152	15,859,124

For footnotes see end of Table p. 812.

10.—Life Insurance in Force and Effectd in Canada, by Companies, 1930—concluded.

Company.	Policies Issued.		Policies in Force.		Net Premium Income.	Net Amount of Policies become Claims. ¹
	No.	Net Amount.	No.	Net Amount.		
SUMMARY.		\$		\$	\$	\$
Canadian companies.....	308,492	594,709,290	2,173,372	4,319,432,191	142,062,890	34,803,687
British companies.....	14,536	10,769,103	138,009	117,494,360	4,927,869	1,963,563
Foreign companies.....	548,578	279,275,855	4,422,273	2,055,502,125	73,539,152	15,859,111
Grand Totals.....	871,606	884,754,248	6,733,654	6,492,428,676	229,529,911	52,626,361

¹ Including matured endowments.² Ceased transacting new business in Canada.

11.—Progress of Life Insurance in Canada, 1926-30.

Item.	1926.	1927.	1928.	1929.	1930.
Canadian Companies¹—					
Policies new and taken up.....No.	277,405	297,883	317,735	329,989	308,492
Policies in force at end of year.....	1,692,660	1,816,796	1,960,429	2,098,282	2,173,372
Policies become claims.....	16,260	17,484	19,854	22,608	22,271
Net amount of policies new and taken up.....	\$ 515,328,711	\$ 544,385,411	\$ 606,902,108	\$ 645,201,646	\$ 594,709,290
Net amount of policies in force.....	\$ 2,979,946,768	\$ 3,277,050,348	\$ 3,671,325,188	\$ 4,051,612,499	\$ 4,319,432,191
Net amount of policies become claims.....	\$ 21,464,091	\$ 22,642,370	\$ 26,192,910	\$ 31,788,773	\$ 34,803,687
Amount of premiums in year.....	\$ 102,882,156	\$ 111,644,539	\$ 124,654,036	\$ 137,319,487	\$ 142,062,890
Claims paid ²	\$ 21,189,288	\$ 23,193,977	\$ 25,270,528	\$ 33,221,451	\$ 36,017,290
Unsettled claims—					
Not resisted.....	\$ 2,216,541	\$ 2,038,459	\$ 3,426,966	\$ 2,871,841	\$ 3,297,337
Resisted.....	\$ 55,760	\$ 92,684	\$ 109,120	\$ 54,017	\$ 54,211
British Companies—					
Policies new and taken up.....No.	45,105	34,335	20,359	16,709	14,536
Policies in force at end of year.....	132,095	134,145	134,250	137,803	138,009
Policies become claims.....	1,358	1,456	1,502	1,467	1,372
Net amount of policies new and taken up.....	\$ 16,042,800	\$ 15,414,004	\$ 12,312,500	\$ 11,138,775	\$ 10,769,103
Net amount of policies in force.....	\$ 111,375,336	\$ 113,883,716	\$ 115,340,577	\$ 116,545,637	\$ 117,494,360
Net amount of policies become claims.....	\$ 1,641,861	\$ 2,033,571	\$ 2,111,035	\$ 2,217,823	\$ 1,963,563
Amount of premiums in year.....	\$ 3,888,776	\$ 3,963,695	\$ 4,036,669	\$ 4,000,064	\$ 4,927,869
Claims paid ²	\$ 1,663,977	\$ 1,867,679	\$ 2,095,434	\$ 2,030,705	\$ 2,074,962
Unsettled claims—					
Not resisted.....	\$ 183,017	\$ 262,875	\$ 220,166	\$ 381,383	\$ 224,185
Resisted.....	\$ 4,052	\$ —	\$ —	\$ —	\$ —
Foreign Companies—					
Policies new and taken up.....No.	574,511	582,645	613,851	615,481	548,578
Policies in force at end of year.....	3,729,660	3,934,511	4,162,450	4,364,004	4,422,273
Policies become claims.....	39,362	41,573	43,178	47,553	44,021
Net amount of policies new and taken up.....	\$ 266,568,498	\$ 278,675,642	\$ 299,527,456	\$ 321,801,064	\$ 279,275,855
Net amount of policies in force.....	\$ 1,518,874,230	\$ 1,653,474,770	\$ 1,820,979,858	\$ 1,989,104,071	\$ 2,055,502,125
Net amount of policies become claims.....	\$ 11,536,574	\$ 11,889,499	\$ 13,384,031	\$ 15,272,011	\$ 15,859,121
Amount of premiums in year.....	\$ 53,102,033	\$ 58,124,125	\$ 64,255,078	\$ 69,408,928	\$ 73,539,152
Claims paid ²	\$ 11,629,907	\$ 12,307,558	\$ 13,707,461	\$ 16,042,494	\$ 16,777,789
Unsettled claims—					
Not resisted.....	\$ 915,776	\$ 861,498	\$ 1,173,636	\$ 971,364	\$ 850,455
Resisted.....	\$ 75,362	\$ 59,493	\$ 61,774	\$ 53,491	\$ 114,477
All Companies—					
Policies new and taken up.....No.	897,021	914,863	951,945	962,179	871,606
Policies in force at end of year.....	5,554,415	5,885,452	6,257,129	6,600,089	6,733,654
Policies become claims.....	56,980	60,513	64,534	71,628	67,677
Net amount of policies new and taken up.....	\$ 797,940,009	\$ 838,475,057	\$ 918,742,064	\$ 978,141,485	\$ 884,754,248
Net amount of policies in force.....	\$ 4,610,196,334	\$ 5,044,408,834	\$ 5,607,645,623	\$ 6,157,262,207	\$ 6,492,428,676
Net amount of policies become claims.....	\$ 34,642,526	\$ 36,565,440	\$ 41,687,976	\$ 49,278,607	\$ 52,626,371
Amount of premiums in year.....	\$ 159,872,965	\$ 173,732,359	\$ 192,945,783	\$ 210,728,479	\$ 229,529,911
Claims paid ²	\$ 34,483,172	\$ 37,369,214	\$ 41,073,423	\$ 51,294,650	\$ 54,870,041
Unsettled claims—					
Not resisted.....	\$ 3,315,334	\$ 3,162,832	\$ 4,820,768	\$ 4,224,588	\$ 4,371,999
Resisted.....	\$ 135,174	\$ 152,177	\$ 170,894	\$ 107,508	\$ 168,683

¹ Figures of Canadian business only.² Including matured endowments.

12.—Ordinary and Industrial Life Insurance Policies in Force and Effectuated in Canada, 1930.

Type of Policy.	Newly Effectuated.			In Force.		
	Number.	Total Amount.	Average Amount of a Policy.	Number.	Total Amount.	Average Amount of a Policy.
		\$	\$		\$	\$
Ordinary policies—						
Canadian companies.....	234,667	587,507,020	2,504	1,750,045	3,986,041,262	2,278
British companies.....	4,664	9,644,344	2,068	41,392	106,167,788	2,565
Foreign companies.....	86,046	177,573,828	2,064	657,244	1,225,111,432	1,864
All Companies.....	325,377	774,725,192	2,381	2,448,681	5,317,320,482	2,172
Industrial policies—						
Canadian companies.....	105,778	53,830,584	509	421,523	148,062,045	351
British companies.....	10,244	2,133,571	208	96,617	15,270,325	158
Foreign companies.....	473,859	119,259,561	252	3,764,607	691,066,441	184
All Companies.....	589,881	175,223,716	297	4,282,747	854,398,811	199

13.—Insurance Death-Rate in Canada, 1927-30.

NOTE.—Average death-rate of insured persons for all companies in the 26 years 1901-26 was 8.9 per 1000.

Company.	1927.			1928.		
	Number of Policies Exposed to Risk.	Number of Policies Terminated by Death.	Death-rate per 1,000.	Number of Policies Exposed to Risk.	Number of Policies Terminated by Death.	Death-rate per 1,000.
All companies, ordinary.....	1,960,774	10,663	5.4	2,122,065	11,849	5.6
All companies, industrial....	3,774,650	27,748	7.4	3,970,847	30,301	7.6
Fraternal benefit societies..	225,003	2,907	12.9	221,269	3,106	14.0
Totals.....	5,960,427	41,318	6.9	6,314,181	45,256	7.2
	1929.			1930.		
	Number of Policies Exposed to Risk.	Number of Policies Terminated by Death.	Death-rate per 1,000.	Number of Policies Exposed to Risk.	Number of Policies Terminated by Death.	Death-rate per 1,000.
All companies, ordinary.....	2,282,497	13,796	6.0	2,408,286	13,777	5.7
All companies, industrial....	4,167,146	31,947	7.7	4,279,895	31,365	7.3
Fraternal benefit societies...	220,450	3,195	14.5	223,816	3,158	14.1
Totals.....	6,670,093	48,938	7.3	6,911,997	48,300	7.0

14.—Assets of Canadian Life Companies and Assets in Canada of Life Companies other than Canadian Companies, 1926-30.

NOTE.—Certain British companies transacting fire insurance in Canada transact also life insurance in Canada, and inasmuch as a separation of assets has not been made between these two classes, their assets in Canada are not included here, but are included in the assets of British companies shown in Table 3 on pp. 804-5.

Item.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$
Canadian Companies—					
Real estate.....	27,542,604	27,415,468	29,876,943	34,939,006	47,165,903
Real estate held under agreement of sale	—	—	—	—	14,269,209
Loans on real estate.....	217,754,300	253,125,752	294,818,250	327,211,037	338,122,114
Loans on collaterals.....	1,580,367	299,688	424,816	5,148,478	820,811
Cash loans and premium obligations on policies in force.....	128,090,606	141,288,436	162,797,279	195,566,166	229,108,632
Stocks, bonds and debentures.....	494,341,843	559,199,065	655,692,366	733,077,513	785,905,290
Interest and rent due and accrued.....	17,288,699	18,274,594	19,480,258	21,921,633	25,818,997
Cash on hand and in banks.....	6,824,016	7,243,364	7,467,221	6,325,633	18,764,106
Outstanding and deferred premiums....	24,358,665	28,000,731	33,632,762	38,809,327	46,289,991
Other assets.....	1,192,931	1,662,406	2,227,526	3,299,825	3,598,119
Totals, Assets¹.....	918,974,031	1,036,509,504	1,206,417,421	1,366,298,618	1,509,863,172
British Companies—					
Real estate.....	974,478	860,166	870,156	769,670	724,117
Real estate held under agreements of sale.....	—	—	—	—	58,704
Loans on real estate.....	13,197,138	13,298,285	13,548,137	12,986,877	12,501,381
Loans on collaterals.....	963	863	1,738	76,613	2,741
Cash loans and premium obligations on policies in force.....	3,516,272	3,638,475	3,846,694	3,985,632	4,136,916
Stocks, bonds and debentures.....	32,182,272	32,207,849	32,667,057	32,121,391	36,912,816
Interest and rent due and accrued.....	440,731	446,074	464,776	502,247	583,919
Cash on hand and in banks.....	365,099	694,806	564,376	815,090	860,221
Outstanding and deferred premiums....	563,478	514,772	522,352	536,879	534,847
Other assets.....	36,547	45,899	50,043	58,543	141,706
Totals, Assets in Canada.....	51,276,978	51,707,189	52,535,329	51,852,942	56,457,368
Foreign Companies—					
Real estate.....	3,811,182	2,766,911	2,484,145	2,378,116	2,448,397
Real estate held under agreements of sale.....	—	—	—	—	11,700
Loans on real estate.....	19,082,906	23,790,383	23,479,295	23,416,508	30,488,337
Loans on collaterals.....	—	—	—	—	—
Cash loans and premium obligations on policies in force.....	24,120,321	26,932,123	30,993,628	37,035,100	43,325,671
Stocks, bonds and debentures.....	190,849,344	219,994,393	242,229,061	267,489,395	311,786,613
Interest and rent due and accrued.....	3,196,376	3,511,835	3,989,880	4,549,393	5,330,201
Cash on hand and in banks.....	3,131,710	3,896,179	4,396,656	4,660,803	5,757,270
Outstanding and deferred premiums....	5,080,053	5,587,692	6,834,900	7,168,453	8,380,578
Other assets.....	82,341	46,632	9,333	767,079	10,344
Totals, Assets in Canada.....	249,354,233	286,526,148	314,416,898	348,464,847	407,539,112

¹The figures in the table give the book values; the market values of these assets were \$945,339,817 in 1926, \$1,077,501,770 in 1927, \$1,251,326,900 in 1928, \$1,414,783,529 in 1929 and \$1,511,411,068 in 1930.

5.—Liabilities of Canadian Life Companies and Liabilities in Canada of Life Companies other than Canadian Companies, 1926-30.

Item.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$
Canadian Companies—					
Unsettled claims.....	7,087,483	8,438,251	10,095,887	9,957,894	10,994,745
Net re-insurance reserve.....	778,056,671	870,467,629	1,008,797,408	1,140,615,583	1,259,253,948
Sundry liabilities.....	95,697,964	120,126,568	141,842,787	164,778,155	169,337,563
Totals, Liabilities, not Including Capital.....	880,842,118	998,942,448	1,160,736,082	1,315,351,632	1,439,586,256
Surplus of assets excluding capital.....	64,497,699	78,559,322	90,590,818	99,431,897	71,824,812
Capital stock paid up.....	7,969,758	8,450,152	10,090,760	10,736,558	11,140,654
British Companies¹—					
Unsettled claims.....	187,069	262,875	220,166	381,384	224,188
Net re-insurance reserve.....	27,904,909	29,402,171	30,818,854	31,496,050	32,861,364
Sundry liabilities.....	416,055	336,505	396,065	339,041	444,118
Totals, Liabilities, not Including Capital¹.....	28,508,033	30,001,551	31,435,085	32,216,475	33,529,670
Surplus of assets.....	22,822,019	21,759,750	21,152,250	19,688,473	22,979,884
Foreign Companies¹—					
Unsettled claims.....	991,140	920,991	1,235,410	1,024,856	964,929
Net re-insurance reserve.....	218,743,028	243,876,209	273,244,841	303,264,419	331,104,374
Sundry liabilities.....	11,562,456	14,020,362	15,880,498	17,358,608	18,949,502
Totals, Liabilities, not Including Capital¹.....	231,296,624	258,817,562	290,360,749	321,647,883	351,018,805
Surplus of assets.....	18,052,609	27,708,586	24,056,149	26,816,964	56,520,307

¹Liabilities in Canada.

6.—Total Cash Income and Expenditure of Canadian Life Companies, and Cash Income and Expenditure in Canada of Life Companies other than Canadian Companies, 1926-30.

Item.	1926.	1927.	1928.	1929.	1930.
INCOME.	\$	\$	\$	\$	\$
Canadian Companies¹—					
Net premium income.....	166,433,775	189,773,972	219,695,507	258,392,082	273,381,096
Consideration for annuities.....	6,157,590	10,948,053	27,775,296	21,904,175	24,816,263
Interest and dividends on stocks, etc...	50,416,744	56,917,760	65,761,754	74,076,246	78,424,368
Sundry items.....	8,820,741	16,000,473	20,239,177	32,496,340	28,746,973
Totals, Cash Income¹.....	231,828,850	273,640,258	333,471,734	386,868,843	405,368,700
British Companies²—					
Net premium income.....	3,888,776	3,963,694	4,036,669	4,000,064	4,927,869
Consideration for annuities.....	—	—	—	—	7,857
Interest and dividends on stocks, etc...	2,319,264	2,375,046	2,354,269	2,260,650	2,319,073
Sundry items.....	15,995	105,346	223,150	57,434	68,420
Totals, Cash Income².....	6,224,035	6,444,086	6,614,088	6,318,148	7,323,219
Foreign Companies²—					
Net premium income.....	53,102,033	58,124,125	64,255,078	69,408,928	73,539,152
Consideration for annuities.....	232,734	217,076	221,904	401,236	403,889
Interest and dividends on stocks, etc...	11,953,472	13,477,158	15,468,627	17,396,145	20,290,992
Sundry items.....	1,350,344	1,882,648	1,775,089	2,083,815	2,249,119
Totals, Cash Income².....	66,638,583	73,701,007	81,720,698	89,290,124	96,483,152

For footnotes see end of table, p. 816.

16.—Total Cash Income and Expenditure of Canadian Life Companies, and Cash Income and Expenditure in Canada of Life Companies other than Canadian Companies, 1926-30—concluded.

Item.	1926.	1927.	1928.	1929.	1930.
EXPENDITURE.	\$	\$	\$	\$	\$
Canadian Companies¹—					
Payments to policyholders.....	89,824,776	102,211,905	118,287,824	152,626,413	177,179,476
General expenses.....	46,989,556	52,662,089	60,837,059	71,784,899	77,271,141
Dividends to stockholders.....	2,350,621	1,532,455	1,904,225	2,515,406	3,022,993
Other disbursements.....	2,884,007	3,998,698	5,819,197	8,813,307	12,775,136
Totals, Expenditure¹.....	142,048,960	160,405,147	186,848,305	235,740,025	270,248,754
Excess of income over expenditure.....	89,779,890	113,235,111	146,623,429	151,128,818	135,119,946
British Companies²—					
Payments to policyholders.....	2,385,677	2,771,207	3,107,238	3,393,542	4,402,291
General expenses.....	1,078,583	1,099,852	985,677	971,130	984,147
Other disbursements.....	48,915	60,076	87,622	50,990	38,679
Totals, Expenditure².....	3,315,175	3,931,135	4,180,537	4,415,662	5,425,123
Excess of income over expenditure.....	2,710,860	2,512,951	2,433,551	1,902,486	1,898,094
Foreign Companies²—					
Payments to policyholders.....	24,791,007	26,724,692	29,067,298	34,304,593	40,277,675
General expenses.....	12,662,589	13,901,431	14,638,186	15,597,059	15,474,742
Other disbursements.....	692,576	778,209	1,520,389	1,806,954	2,092,437
Totals, Expenditure².....	38,146,172	41,404,332	45,225,873	51,708,606	57,844,854
Excess of income over expenditure.....	28,492,411	32,296,675	36,494,825	37,581,518	38,638,298

¹Includes income or expenditure on business outside of Canada. ²Income or expenditure in Canada.

Life Insurance Effected through Fraternal Benefit Societies.—Table 17 gives statistics of life insurance effected through fraternal benefit societies on the members thereof. The rates charged by these societies are computed to be sufficient to provide the benefit granted, having regard for actuarial principles. Each benefit fund of every society must be valued annually by a qualified actuary (Fellow of the Institute of Actuaries, London; of the Faculty of Actuaries in Scotland; of the Actuarial Society of America; or of the American Institute of Actuaries), and unless the actuary certifies to the solvency of each fund a readjustment of rates or benefits must be made. The statistics in the first part of this table relate to the Canadian societies reporting to the Insurance Department of the Dominion Government, which numbered 10 in 1930, *viz.*, the Alliance Nationale, the Ancient Order of Foresters, the Artisans Canadiens-Français, Canadian Woodmen of the World, the Catholic Mutual Benefit Association, the Commercial Travellers' Association of Canada, the Commercial Travellers Mutual Insurance Society, the Independent Order "Fior d'Italia", the Independent Order of Foresters and the Grand Orange Lodge of British America.

Under an amendment of the Insurance Act, which became effective Jan. 1, 1920, it became necessary for all foreign fraternal societies previously transacting business in Canada under provincial licences to obtain licences under the Insurance Act, in order to be permitted to continue to issue new insurance in Canada. Twenty-five such societies transacted business in 1930, *viz.*, Aid Association for Lutherans, Association Canado-Américaine, Brotherhood of American Yeomen, Catholic Order of Foresters, Expressmen's Mutual Benefit Association, Jewish National Workers' Alliance, Knights of Columbus, Knights of Pythias, Ladies' Catholic Benevolent Association, Lutheran Brotherhood, Lutheran Mutual Aid Society, Maccabees-Modern Woodmen of America, National Fraternal Society of the Deaf, National

Slovak Society of U.S.A., Sons of Zion, Royal Arcanum, Royal Clan (Order of Scottish Clans), Slovene National Benefit Society, Sons of Norway, United Commercial Travelers of America (accident business only), Verhovay Aid Association, Women's Benefit Association, Women's Catholic Order of Foresters, Workmen's Circle.

17.—Life Insurance Effectuated through Fraternal Benefit Societies, 1926-30.

NOTE.—The figures are for Canadian business only.

Item.	1926.	1927.	1928.	1929.	1930.
CANADIAN SOCIETIES.					
Number of certificates taken.....	13,309	15,475	18,857	20,079	14,598
Number of certificates become claims....	2,913	3,146	3,521	3,250	3,320
Amount paid by members.....	\$ 2,861,498	\$ 3,104,177	\$ 2,984,515	\$ 2,981,508	\$ 2,907,347
Amount of certificates new and taken up..	11,014,014	13,867,269	15,896,261	15,095,645	11,255,675
Net amount in force.....	135,723,963	135,093,703	136,421,265	136,107,164	129,862,173
Amount of certificates become claims....	2,527,687	2,658,332	2,941,605	2,776,499	2,847,823
Benefits paid.....	2,745,405	3,188,977	3,169,951	3,213,574	3,376,260
Unsettled claims—					
Not resisted.....	165,663	160,652	192,374	227,555	196,006
Resisted.....	—	1,000	2,000	—	—
Amount terminated by—					
Death.....	1,836,023	2,004,914	2,180,196	2,227,415	2,173,822
Surrender, expiry, lapse, etc.....	21,098,273	15,435,133	15,689,299	17,172,287	16,216,935
Totals, Terminated.....	22,934,296	17,440,047	17,869,495	19,399,702	18,390,757
Assets—					
Real estate.....	1,787,554	1,905,763	2,154,998	2,141,627	2,175,663
Loans on real estate.....	13,204,927	14,523,005	15,994,461	17,205,743	17,897,910
Policy loans.....	12,203,937	10,581,935	10,198,992	9,959,596	9,892,340
Stocks, bonds and debentures.....	31,943,034	32,746,864	33,964,330	35,363,109	36,495,997
Cash on hand and in banks.....	921,356	942,491	930,342	857,160	728,528
Interest and rent due and accrued.....	763,704	780,986	824,885	849,206	885,435
Dues from members.....	333,609	279,384	272,608	275,843	284,242
Other assets.....	3,612,092	3,403,796	2,925,253	2,712,074	2,609,696
Totals, Assets¹.....	64,770,213	65,164,224	67,265,865	69,364,358	70,969,811
Liabilities—					
Claims, unsettled.....	238,626	225,026	275,268	298,934	248,754
Reserves.....	59,585,420	60,059,878	61,005,846	61,578,374	62,062,212
Other liabilities.....	1,752,426	1,949,650	2,093,745	2,023,571	2,150,987
Totals, Liabilities.....	61,576,472	62,234,554	63,374,859	63,900,879	64,461,953
Income—					
Assessments.....	5,702,431	6,014,340	6,041,199	5,795,297	5,585,562
Fees and dues.....	499,186	527,875	543,487	536,441	516,238
Interest and rents.....	3,060,006	3,254,759	3,378,298	3,455,537	3,551,694
Other receipts.....	138,979	145,063	198,129	79,557	70,334
Totals, Income.....	9,400,602	9,942,037	10,161,113	9,866,832	9,723,828
Expenditure—					
Paid to members.....	5,470,254	5,817,002	5,795,082	5,987,451	6,058,918
General expenses.....	1,731,975	1,787,512	1,695,201	1,699,564	1,577,549
Totals, Expenditure.....	7,202,229	7,604,514	7,490,283	7,687,015	7,636,467
Excess of income over expenditure.....	2,198,373	2,337,523	2,670,830	2,179,817	2,087,361
FOREIGN SOCIETIES.					
Number of certificates taken.....	5,376	5,392	5,328	4,965	4,315
Number of certificates become claims....	790	735	741	786	868
Amount paid by members.....	\$ 1,178,880	\$ 1,102,829	\$ 973,144	\$ 1,061,584	\$ 1,065,271
Amount of certificates new and taken up..	6,158,925	7,045,512	5,843,865	5,396,175	4,709,995
Net amount in force.....	57,544,334	56,961,015	49,908,304	51,921,366	55,436,601
Amount of certificates become claims....	859,923	816,036	752,052	808,840	920,161
Benefits paid.....	879,343	809,321	756,424	812,695	899,186

¹ The figures given are the book values; the market values of these assets were: \$65,563,639 in 1926, \$6,864,489 in 1927, \$68,275,989 in 1928, \$69,410,022 in 1929 and \$71,510,045 in 1930.

17.—Life Insurance Effected through Fraternal Benefit Societies, 1926-30—concluded.

NOTE.—The figures are for Canadian business only.

Item.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$
FOREIGN SOCIETIES—conc.					
Unsettled claims—					
Not resisted.....	78,700	89,339	78,308	91,688	79,600
Resisted.....	—	—	—	—	—
Amount terminated by—					
Death.....	755,148	727,272	678,684	733,671	746,699
Surrender, expiry, lapse, etc.....	4,727,145	7,538,906	4,383,537	5,095,397	5,070,790
Totals, Terminated.....	5,482,293	8,266,178	5,062,221	5,829,068	5,817,489
Assets—					
Real estate.....	7,700	—	—	—	4,500
Loans on real estate.....	—	—	—	—	97,606
Policy loans.....	15,315	12,497	23,884	45,505	2,533,822
Stocks, bonds and debentures.....	1,602,099	1,804,502	1,887,847	2,225,355	162,333
Cash on hand and in banks.....	244,269	285,298	235,948	355,104	31,693
Interest and rent due and accrued.....	20,009	23,203	26,405	30,323	77,594
Dues from members.....	76,980	56,739	78,151	72,204	—
Other assets.....	3	36	69	468	—
Totals, Assets.....	1,966,375	2,182,275	2,252,304	2,728,959	2,907,468
Liabilities—					
Claims unsettled.....	84,993	94,749	83,257	97,704	90,889
Reserves.....	5,605,766	6,506,723	6,859,496	7,376,121	7,967,836
Other liabilities.....	35,183	115,245	21,345	15,173	18,515
Totals, Liabilities.....	5,725,942	6,716,717	6,964,098	7,488,998	8,077,240
Income—					
Assessments.....	1,241,274	1,181,180	1,051,521	1,146,134	1,174,686
Fees and dues.....	245,096	309,534	289,455	273,525	281,461
Interest and rents.....	88,406	94,557	118,740	123,814	128,549
Other receipts.....	4,782	5,387	5,912	8,115	7,819
Totals, Income.....	1,579,558	1,590,658	1,465,628	1,551,588	1,592,515
Expenditure—					
Paid to members.....	940,330	885,530	813,334	894,513	1,008,530
General expenses.....	174,421	205,037	190,350	178,029	192,650
Totals, Expenditure.....	1,114,751	1,090,567	1,003,684	1,072,542	1,201,180
Excess of income over expenditure.....	464,807	500,091	461,944	479,046	391,335

Summary of Life Insurance in Canada, 1930.—In addition to the business transacted by life insurance companies incorporated by the Dominion Parliament to carry on business throughout Canada, a considerable volume of business is also transacted by companies operating under provincial licences or otherwise permitted by the Provincial Governments to carry on such transactions. Statistics of these provincial companies have been collected since 1915 by the Department of Insurance. Table 18, showing policies issued and in force, premiums received and losses paid, as at Dec. 31, 1930, summarizes the volume of business done by both life companies and fraternal societies as Dominion and provincial licensees in that year.

18.—Dominion and Provincial Life Insurance in Canada, 1930.

Business Transacted by—	New Policies Effectuated (net).	Net In Force Dec. 31.	Net Premiums Received.	Net Claims Paid.
	\$	\$	\$	\$
1. Dominion Licensees—				
(a) Life insurance companies.....	884,754,248	6,492,428,676	220,529,911	54,870,041
(b) Fraternal.....	15,965,670	185,288,774	3,972,618	3,811,647
Totals for Dominion Companies....	900,719,918	6,677,717,450	224,502,529	58,681,688
2. Provincial Licensees—				
(a) Provincial companies within provinces by which they are incorporated—				
(1) Life companies.....	12,437,071	68,195,261	1,933,485	659,883
(2) Fraternal.....	3,146,224	51,752,377	1,469,154	1,203,537
(b) Provincial companies in provinces other than those by which they are incorporated—				
(1) Life companies.....	7,091,453	27,460,149	746,518	347,792
(2) Fraternal.....	3,277,767	43,182,178	883,271	603,821
Totals for Provincial Companies....	25,952,515	190,589,965	5,032,428	2,815,033
Grand Totals.....	926,672,433	6,868,307,415	229,534,957	61,496,721

Section 3.—Miscellaneous Insurance.

Since 1875 the growth of insurance business other than fire and life has been a steady one. The report of the Superintendent of Insurance for the calendar year 1880 shows that the number of companies duly licensed for the transaction of accident, guarantee, plate glass and steam boiler insurance—the only four classes of miscellaneous insurance then transacted—was 5, 3, 1 and 1 respectively. The report for the year 1930 shows that miscellaneous insurance in Canada now includes: accident, sickness, automobile, burglary, explosion, forgery, guarantee, leakage, steam boiler, title, tornado, live-stock insurance, etc. In 1880 10 companies transacted business of the miscellaneous kind, but in 1930 such insurance was sold by 246 companies, of which 52 were Canadian, 61 British and 133 foreign; 175 of these 246 companies also transacted fire insurance. In addition, 12 fraternal orders or societies carried on sickness insurance as well as life insurance business.

Accident Insurance.—The first licence of this kind was issued to the Travelers' Co., of Hartford, Conn., in 1868. The first licence to a Canadian company was issued to the Accident Insurance Co. of Canada, which was organized in 1872 and commenced business in 1874. Much accident insurance has also been sold by companies doing primarily a life insurance business. Seventy-two companies transacted accident insurance in 1930.

Automobile Insurance.—This is now one of the most important branches of the miscellaneous class of insurance. Premiums increased from \$80,446 in 1910 to \$573,604 in 1915 and to \$16,827,604 in 1929; for 1930 they reached \$18,260,176, showing an increase of nearly 9 p.c. for the year although there was an increase of 32 p.c. for 1929 as compared with 1928. There has been an increase in the number of companies from 7 to 162 during the 20-year period.

Plate Glass Insurance.—Policies were first sold in Canada by the Metropolitan Plate Glass Insurance Co., a United States' concern, which withdrew from Canada during 1882 to avoid business restrictions. The 73 companies operating in Canada in 1930 received premiums of \$553,842 and incurred claims of \$268,924.

Burglary Insurance.—In 1893 only one company issued burglary policies. A second followed in 1905 and in 1910 5 companies were operating, while at the end of 1930 68 companies were reported as having sold this type of insurance during the year. The premium income of these companies amounted in 1930 to \$1,156,050 and the losses incurred amounted to \$364,896.

Hail Insurance.—Insurance against hailstorms is a class of business of comparatively recent development in Canada. During the year 1930 42 insurance companies undertook this class of risk, the premiums written amounting to \$2,856,091 and the losses incurred to \$2,592,646. The total premiums for the 19 years during which this business has been carried on in Canada amounted to \$64,448,610 and the total losses paid to \$44,646,248.

19.—Insurance other than Fire and Life, 1930.¹

Type of Insurance.	Premiums Received.	Losses Incurred.	Unsettled Claims.	
			Not Resisted.	Resisted.
	\$	\$	\$	\$
Guarantee (Fidelity).....	1,341,863	848,487	444,929	69,208
Guarantee (Surety).....	1,162,636	344,761	281,863	70,753
Personal Accident.....	3,437,519	1,505,007	534,557	38,549
Personal Accident and Sickness.....	1,849,624	1,126,884	231,843	—
Employers' Liability and Workmen's Compensation.....	4,639,789	2,541,798	2,623,821	11,450
Other Accident Insurance.....	1,728,849	625,587	367,926	25,411
Sickness.....	1,784,377	1,032,870	311,126	3,500
Burglary.....	1,156,050	364,896	73,048	2,675
Steam Boiler.....	617,982	42,758	20,489	—
Hail.....	2,856,091	2,592,646	3,459	2,306
Inland Transportation.....	1,019,359	430,211	101,864	—
Plate Glass.....	553,842	268,924	27,147	—
Automobile.....	18,260,176	10,043,063	3,913,492	179,129
Live Stock.....	59,428	88,992	28,975	500
Tornado.....	160,208	39,063	3,444	—
Earthquake.....	6,191	500	—	—
Forgery.....	51,590	28,254	4,651	50,000
Rain.....	12,428	6,490	—	—
Credit.....	365,466	313,088	154,833	1,100
Electrical Machinery.....	147,470	67,607	9,486	—
Fraud.....	37,917	15,181	—	—
Aviation.....	187,787	336,475	192,832	14,000

¹ Dominion licensees only.

20.—Income and Expenditure, and Assets and Liabilities of Canadian Companies Doing only Insurance Business other than Fire and Life, 1930.

Company.	Income.	Expenditure.	Excess of Income over Expenditure.	Assets.	Liabilities. ²	Excess of Assets over Liabilities.
	\$	\$	\$	\$	\$	\$
Boiler Inspection.....	401,877	338,957	62,920	965,438	434,742	530,696
Chartered Trust.....	391,839	357,483	34,356	4,408,074 ³	3,229,257	1,118,816
Confederation Life.....	10,666	2,543	8,062	90,330	2,056	88,274
Fidelity Insurance.....	329,263	328,978	285	504,515	217,204	287,311
T. Eaton General.....	22,327	2,733	19,594	153,708	1,647	152,161
Guarantee Co. of North America.....	756,073	667,570	88,504	4,277,665	1,128,700	3,148,965
London Life.....	94,671	91,461	3,210	126,767	43,763	83,004
Merchants' Casualty.....	372,102	356,045	16,058	378,893	241,931	136,962
North American Accident.....	123,109	131,595	8,486	377,955	39,206	338,749
Premier Guarantee.....	18,857	28,311	9,455	101,414	17,864	83,550
Protective Association.....	451,153	438,526	12,627	326,526	163,242	163,284
Royal Guardians.....	4,585	2,841	1,744	20,524	7,596	12,928
Totals.....	2,976,462	2,747,043	229,419	11,731,809	5,527,298	6,204,601

² Not including capital stock.

³ Including \$1,409,403 loans on collateral.

21.—Income and Expenditure in Canada of Companies, other than Canadian, Doing only Insurance Business other than Fire and Life, 1930.

Company.	Income.			Expenditure.			Excess of Income over Expenditure.
	Pre-miums.	Interest and Divi-dends Earned.	Total Income.	Net Losses Incurred.	General Expendi-ture.	Total Expendi-ture.	
	\$	\$	\$	\$	\$	\$	\$
Abeille.....	50,583	4,628	55,211	46,310	19,349	65,659	— 10,448
Aero Indemnity.....	19,109	879	19,988	13,532	8,461	21,993	— 2,005
Aero Insurance.....	65,478	879	66,357	153,068	19,892	172,961	— 106,604
Ætna Casualty.....	31,405	4,447	50,977	17,725	19,318	37,044	13,934
Ætna Life.....	16,242	5,117	21,359	4,065	7,296	14,362	6,998
American and Foreign.....	4,613	Nil	4,612	155	1,452	1,297	3,316
American Automobile Fire.....	355,826	479	356,305	151,691	129,815	281,505	74,800
American Automobile.....	717,639	790	718,429	399,760	253,624	653,384	65,045
American Credit.....	232,747	4,761	237,508	143,462	97,930	241,392	— 3,884
American Surety.....	61,902	5,134	67,036	137,072	16,722	153,793	— 86,758
Bankers' Indemnity.....	14,642	5,250	19,892	27,525	3,803	31,328	— 11,436
British and Foreign.....	Nil	5,990	5,990	Nil	127	126	5,864
Century Indemnity.....	59,186	15,000	74,186	36,024	26,849	62,874	11,313
Connecticut General.....	Nil	2,125	2,125	Nil	Nil	Nil	2,125
Constitution Indemnity.....	— 10,573	2,117	8,456	21,156	— 1,952	19,204	— 27,660
Continental Casualty.....	746,365	24,895	771,260	355,850	361,625	717,475	53,785
Employers' Reinsurance.....	207,540	4,247	211,787	49,099	71,786	120,885	90,902
Fidelity and Casualty.....	877	12,798	13,675	4,907	3,155	8,063	5,613
Fireman's Fund Indemnity.....	Nil	Nil	Nil	Nil	Nil	Nil	Nil
General Casualty of Paris.....	169,850	17,128	186,977	81,816	114,862	196,672	— 9,701
General Casualty of America.....	37,794	7,774	45,568	23,300	19,671	42,971	2,596
General Exchange.....	448,181	18,900	467,241	349,997	75,456	425,453	41,788
General Indemnity.....	1,591	501	2,134	Nil	1,087	1,087	1,046
General Reinsurance.....	Nil	7,250	7,250	5,015	— 1,82	4,833	2,418
Hartford Accident.....	190,467	13,883	204,350	103,536	83,685	187,220	17,129
Hartford Live Stock.....	24,114	3,383	27,496	25,647	10,044	35,691	— 8,195
Hartford Steam Boiler.....	15,713	2,500	18,213	Nil	Nil	Nil	18,213
Home Indemnity.....	Nil	11,016	11,016	Nil	Nil	Nil	11,016
Indemnity Insurance Co.....	129,349	17,428	146,777	135,610	80,569	216,179	— 69,402
International Fidelity.....	5,956	Nil	5,956	1,146	788	1,933	4,023
Lloyd's Casualty.....	293,014	16,481	309,495	151,949	104,616	256,566	52,929
Loyal Protective.....	270,054	5,828	275,882	155,363	89,154	244,516	31,365
Lumbermen's Mutual Cas- ualty.....	335,941	7,202	343,143	161,225	100,132	310,319 ¹	32,825
Maryland Casualty.....	736,040	33,458	769,498	356,443	303,908	660,351	109,147
Metropolitan Casualty.....	97,559	24,000	121,559	28,577	66,355	94,932	26,627
Metropolitan Life.....	589,250	17,150	606,400	349,713	136,476	486,189	120,211
Monarch Accident.....	76,850	2,576	79,426	50,941	31,856	82,797	— 3,370
National Surety.....	391,093	23,870	417,741	336,688	179,902	516,590	— 98,850
National Union Indemnity.....	97,614	8,947	106,561	50,877	55,119	105,995	566
New York Casualty.....	165,095	8,446	173,844	163,697	56,344	220,041	— 41,197
New York Indemnity.....	145,655	9,240	155,089	36,047	83,926	119,973	35,116
Northwest Casualty.....	26,959	1,964	28,923	19,364	17,814	37,179	— 8,256
Occidental Life.....	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Ocean Marine.....	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Preferred Accident.....	129,836	10,211	140,048	56,682	59,758	116,440	23,607
Prudential Insurance.....	5,687	Nil	5,687	488	900	1,388	4,299
Ridgely Protective.....	82,339	2,004	84,343	52,156	37,246	89,402	— 5,059
St. Paul-Mercury.....	43,245	2,449	45,694	39,260	13,837	53,097	— 7,402
Standard Marine.....	450	500	950	47	77	123	826
Tornado Inter-Insurance.....	3,069	495	3,564	Nil	890	890	2,675
Transportation.....	9,691	Nil	9,691	2,775	2,934	5,709	3,982
Travelers' Indemnity.....	670,013	33,439	703,452	368,882	305,520	674,401	29,051
Travelers' Insurance.....	1,333,776	55,772	1,389,548	670,905	502,243	1,173,148	216,399
United States Casualty.....	Nil	Nil	Nil	Nil	Nil	Nil	Nil
United States Fidelity.....	1,257,005	47,917	1,304,922	454,074	555,050	1,009,124	295,798
Zurich.....	437,481	28,701	466,183	270,918	218,742	489,660	23,498
Totals.....	10,794,312	539,949	11,357,862	6,067,229	4,348,029	10,464,220	893,642

¹ Including \$48,962 dividends or savings credited to subscribers.

22.—Dominion and Provincial Insurance in Canada, other than Fire and Life, 1930.

NET PREMIUMS RECEIVED.

Class of Business.	Dominion Licensees.	Provincial Licensees.			Grand Total.
		(a) Prov. Cos. within Provinces by which they are Incorp.	(b) Prov. Cos. in Provinces other than those by which they are Incorp.	Total Provincial Licensees.	
	\$	\$	\$	\$	\$
Accident (1) Personal.....	3,437,519	3,613	None	3,613	3,441,132
(2) Employers' Liability and Workmen's Compensation....	4,639,789	817,743	597,654	1,415,397	6,055,186
(3) Other.....	1,728,849	40,747	5,174	45,921	1,774,770
Accident and Sickness Combined.....	1,849,664	121,663	59,691	181,354	2,031,018
Automobile.....	18,260,176	641,105	260,197	901,302	19,161,478
Aviation.....	187,787	None	None	None	187,787
Burglary.....	1,156,050	22,210	4,470	26,680	1,182,730
Credit.....	365,466	None	None	None	365,466
Earthquake.....	6,191	None	None	None	6,191
Electrical Machinery.....	147,470	None	None	None	147,470
Forgery.....	51,590	None	None	None	51,590
Fraud.....	37,917	None	None	None	37,917
Guarantee (Fidelity).....	1,341,863	88,086 ¹	24,949 ¹	113,035 ¹	2,617,534
Guarantee (Surety).....	1,162,636				
Hail.....	2,856,091	1,053,652	None	1,053,652	3,909,743
Inland Transportation.....	1,019,359	7,254	4,416	11,670	1,031,029
Live Stock.....	59,428	None	None	None	59,428
Plate Glass.....	553,842	54,653	2,217	56,870	610,712
Rain.....	12,428	None	None	None	12,428
Sickness.....	1,784,377	17,295	3,203	20,498	1,804,875
Sprinkler ²	17,379	None	None	None	17,379
Steam Boiler.....	617,982	None	None	None	617,982
Title.....	None	None	None	None	None
Tornado.....	160,208	None	None	None	160,208
Weather.....	None	51,820	4,697	56,517	56,517
Totals.....	41,451,061	2,919,841	966,668	3,886,509³	45,330,570³

NET LOSSES INCURRED.

Accident (1) Personal.....	1,505,007	2,422	None	2,422	1,507,429
(2) Employers' Liability and Workmen's Compensation....	2,541,798	431,867	281,488	713,355	3,255,153
(3) Other.....	625,587	17,767	3,219	20,986	646,573
Accident and Sickness Combined.....	1,126,884	45,431	21,878	67,309	1,194,193
Automobile.....	10,043,063	367,181	170,060	537,241	10,580,304
Aviation.....	336,475	None	None	None	336,475
Burglary.....	364,896	13,706	1,061	14,767	379,663
Credit.....	313,088	None	None	None	313,088
Earthquake.....	500	None	None	None	500
Electrical Machinery.....	67,607	None	None	None	67,607
Forgery.....	28,254	None	None	None	28,254
Fraud.....	15,181	None	None	None	15,181
Guarantee (Fidelity).....	848,487	17,156 ¹	15 ¹	17,171 ¹	1,210,419
Guarantee (Surety).....	344,761				
Hail.....	2,592,646	806,912	None	806,912	3,399,558
Inland Transportation.....	367,288	6,282	776	7,058	374,346
Live Stock.....	88,992	None	None	None	88,992
Plate Glass.....	268,924	34,789	1,196	35,985	304,909
Rain.....	6,490	None	None	None	6,490
Sickness.....	1,032,870	6,659	2,466	9,125	1,041,995
Sprinkler ²	6,211	None	None	None	6,211
Steam Boiler.....	42,758	None	None	None	42,758
Title.....	None	None	None	None	None
Tornado.....	39,063	None	None	None	39,063
Weather.....	None	13,602	367	13,969	13,969
Totals.....	22,606,830	1,763,774	482,526	2,246,300⁴	24,853,130⁴

¹ Provincial companies did not furnish a separation of guarantee figures.

² This business was transacted by a company not holding a licence to transact fire insurance.

³ Excluding \$2,002,189 premiums of Fraternal Benefit Societies for Accident, Sickness and Funeral Business.

⁴ Excluding \$861,580 losses of Fraternal Benefit Societies for Accident, Sickness and Funeral business

Section 4.—Government Annuities.

In the early years of the 20th century, there arose throughout the civilized world a distinct movement in favour of ameliorating the living conditions of the less well-off members of society. One form which this movement took in the United Kingdom was that of old age pensions, granted by the State as a gift to its poorer citizens, whose earnings were very generally insufficient to permit of a margin of saving. In Canada, where wages were higher and a margin of saving was possible, the movement at first took the form of providing, by establishing Government annuities, an absolutely safe investment for such savings, which had only too often been lost through the inexperience of their owners, leaving the latter a burden upon the charity of relatives or of the public.¹ The cost of administering these annuities is borne by the Dominion Government.

Under the Government Annuities Act (Chapter 5 of the Statutes of 1908, now incorporated, with amendments, in c. 7, R.S.C., 1927), His Majesty the King, represented by the Minister (at present the Minister of Labour), may sell to persons over the age of 5 years, domiciled or resident in Canada, immediate or deferred annuities of not less than \$10 nor more than \$1,200 (1) for the life of the annuitant, (2) for a term of years certain, not exceeding 20 years, or for the life of the annuitant, whichever period shall be the longer, or (3) to any two persons domiciled in Canada during their joint lives, and with or without continuation to the survivor. The property and interest of any annuitant in any contract for an annuity is neither transferable nor attachable. The purchaser may contract that, in the event of the death of the annuitant before the date fixed for the annuity to begin, all money paid shall be refunded to the purchaser or his legal representatives with interest at the rate of 4 p.c. compounded yearly.

The Government Annuities Act was amended by c. 12 of the Statutes of 1925, reducing the minimum annuity purchasable from \$50 to \$10, and by c. 33 of the Statutes of 1931, limiting the amount of annuity obtainable on the life of one person or on the lives of two persons jointly to \$1,200 a year.

From Sept. 1, 1908, the date of the inception of the Annuities Branch, up to and inclusive of Mar. 31, 1931, the total number of annuity contracts issued was 3,293. Of these contracts, 1,512 have been cancelled, leaving in force on Mar. 31, 1931, 11,781 contracts. The total amount of purchase money received during the same period was \$28,472,321. Table 23 gives the details of annuities contracted for and purchase money received from 1909 to 1931, by years.

¹ A Dominion-Provincial non-contributory scheme of old age pensions, providing for the payment, to persons 70 years and over, of pensions not exceeding \$20 per month, contributed in equal parts by the Dominion and the provinces which become parties to the scheme, was enacted by chapter 35 of the Dominion Statutes of 1927. The system is now in effect in British Columbia, Manitoba, Saskatchewan, Alberta, Ontario and the Northwest Territories. For further particulars, see pp. 659-663.

23.—Government Annuities Contracted for, and Purchase Money Received, fiscal years ended Mar. 31, 1909-31.

Fiscal Years.	Contracts.	Purchase Money Received.
	No.	\$
1909 ¹	66	50,391
1910.....	566	434,491
1911.....	1,069	393,441
1912.....	1,032	441,611
1913.....	373	417,110
1914.....	318	390,883
1915.....	264	314,795
1916.....	325	441,896
1917.....	285	432,777
1918.....	187	332,792
1919.....	147	322,772
1920.....	204	408,710
1921.....	195	531,898
1922.....	277	748,164
1923.....	339	1,028,857
1924.....	409	1,458,811
1925.....	486	1,606,822
1926.....	668	1,938,922
1927.....	503	1,894,883
1928.....	1,223	3,843,084
1929.....	1,328	4,272,410
1930.....	1,257	3,156,477
1931.....	1,772	3,612,233
Totals.....	13,293	28,472,322

¹Seven months.

Statistics of the Annuities Fund and value of all contracts issued are given in Tables 24 and 25. From Sept. 1, 1908, to Mar. 31, 1931, 13,293 annuities had been issued. On Mar. 31, 1931, 4,561 immediate annuities and 7,220 deferred annuities were in force. The total value of these annuities on that date was \$23,568,890 and the amount of annuities purchased was \$4,666,507.

24.—Government Annuities Fund Statement, fiscal years ended Mar. 31, 1928-31.

Item.	1928.	1929.	1930.	1931.
ASSETS.	\$	\$	\$	\$
Fund at beginning of year.....	11,446,119	14,719,484	18,369,100	20,612,250
Receipts during the year, less payments.....	3,273,365	3,649,616	2,245,150	2,694,700
Fund at end of year.....	14,719,484	18,369,100	20,612,250	23,306,950
LIABILITIES.				
Net present value of all outstanding contracts.....	14,852,328	18,335,193	20,720,895	23,568,890
RECEIPTS.				
For Immediate Annuities.....	3,156,877	3,607,110	2,484,818	2,650,500
For Deferred Annuities.....	702,185	673,274	682,887	992,844
Interest on Fund.....	493,965	638,889	757,393	843,377
Refunds.....	500	1,056	184	1,677
For amount transferred to maintain Reserve.....	—	132,844	—	108,644
Totals.....	4,353,527	5,053,173	3,925,282	4,597,042
PAYMENTS.				
Annuities paid under Immediate Contracts.....	1,043,766	1,368,542	1,646,699	1,849,411
Return of Premiums with interest.....	20,422	27,051	24,203	22,799
Return of Premiums without interest.....	15,974	7,965	11,230	30,113
Add balance at end of year.....	3,273,365	3,649,615	2,245,150	2,694,700
Totals.....	4,353,527	5,053,173	3,925,282	4,597,042

25.—Valuation, on Mar. 31, 1930 and 1931, of Annuity Contracts Issued pursuant to the Government Annuities Act, 1908.

Description of Contract.	1930.			1931.		
	Number.	Amount of Annuities.	Total Value on Mar. 31, 1930, of Annuities Purchased.	Number.	Amount of Annuities.	Total Value on Mar. 31, 1931, of Annuities Purchased.
		\$	\$		\$	\$
1—Immediate Annuities.....	2,497	1,159,669	9,209,660	2,830	1,282,175	10,313,299
2—Guaranteed Annuities.....	991	330,266	3,390,243	1,101	368,054	3,754,671
3—Last Survivor Annuities.	524	288,970	3,245,270	630	332,931	3,705,453
4—Deferred Annuities.....	6,171	2,114,218	4,875,722	7,220	2,683,347	5,795,471
Totals.....	10,183	3,893,123	20,720,895	11,781	4,666,507	23,568,894

It will be seen from the statements above that Government Annuities have grown steadily in favour, especially since 1921. The actual purchase money received was the highest in 1928 and 1929, but the number of contracts entered into reached a maximum in 1931 when it exceeded the 1929 figure by 444. Both these conditions are natural in the light of economic conditions prevailing during and since 1929. The fund which on March 31, 1931, had been in existence for nearly twenty-two years shows a particularly healthy growth and from 1928 to 1931 has increased from \$14,719,000 to \$23,307,000.

CHAPTER XXIV.—COMMERCIAL FAILURES.

According to section 91 of the British North America Act, "the exclusive legislative authority of the Parliament of Canada" extends to bankruptcy and insolvency legislation, and an Insolvency Act (32-33 Vict., c. 16) was actually passed by the Dominion Parliament in 1869 applying to the four original provinces. This Act was in force for four years and was renewed by c. 46 of the Statutes of 1874 while in 1875 a new Insolvency Act (38 Vict., c. 16) applicable to the whole Dominion was passed, but was repealed in 1880. After this there was no Dominion legislation on the subject of bankruptcy until 1919. During the interval of nearly 40 years commercial failures were handled under provincial legislation, and the statistics relating to such failures during this period were compiled and published by Dun's and Bradstreet's commercial agencies. In 1919 a general Dominion Bankruptcy Act was passed (9-10 Geo. V, c. 36). Statistics of commercial failures dealt with under this Act since it came into force in 1920 have been compiled and published by the Dominion Bureau of Statistics. (See pp. 829-830.)

The history of commercial failures in Canada is traced by years from 1900 in Table 1. Both Bradstreet's and Dun's records are included for comparative purposes. The two sets of records are shown in the table to have the same general tendency so far as numbers of failures are concerned. Dun's record, however, ordinarily shows a rather larger number of failures, and considerably larger assets and liabilities than Bradstreet's.

1.—Commercial Failures in Canada, with Their Assets and Liabilities, According to Bradstreet's and Dun's Records, for the calendar years 1900-31.

Year.	Bradstreet's.			Dun's.		
	Failures.	Assets.	Liabilities.	Failures.	Assets.	Liabilities.
	No.	\$	\$	No.	\$	\$
1900.....	1,337	4,246,693	10,785,601	1,355	8,202,898	11,613,208
1901.....	1,379	5,264,551	11,783,837	1,341	7,686,823	10,811,671
1902.....	1,095	3,602,542	8,546,365	1,101	7,772,418	10,934,777
1903.....	958	3,870,605	8,372,011	978	4,872,422	7,552,724
1904.....	1,175	4,137,418	10,019,311	1,246	8,555,875	11,394,117
1905.....	1,430	6,584,191	13,879,700	1,347	6,822,005	9,854,659
1906.....	1,239	4,305,076	9,450,093	1,184	6,499,052	9,085,773
1907.....	1,365	5,276,698	11,735,272	1,278	9,443,227	13,221,250
1908.....	1,715	7,770,207	17,582,304	1,640	12,008,113	14,931,790
1909.....	1,588	6,195,515	12,811,184	1,442	10,318,511	12,982,800
1910.....	1,469	7,075,347	15,712,586	1,262	11,013,396	14,514,650
1911.....	1,401	6,420,331	13,086,946	1,332	9,964,404	13,491,196
1912.....	1,312	5,611,675	12,355,282	1,357	8,783,409	12,316,396
1913.....	1,827	8,140,990	16,650,450	1,719	12,658,979	16,979,406
1914.....	2,886	13,507,536	30,693,658	2,892	30,888,363	34,996,694
1915.....	2,621	14,227,192	32,134,312	2,652	39,243,658	40,676,621
1916.....	1,772	6,349,078	15,952,684	1,677	19,610,703	24,985,908
1917.....	1,109	6,207,512	13,616,822	1,088	12,994,179	18,108,347
1918.....	814	5,354,727	12,413,536	873	11,246,341	14,502,477
1919.....	625	5,089,534	10,095,232	751	10,731,541	16,224,259
1920.....	966	10,478,465	20,808,053	1,034	17,501,332	24,719,111
1921.....	2,350	21,489,236	48,553,757	2,379	55,114,487	68,947,140
1922.....	3,185	23,933,136	55,047,342	3,630	62,424,514	76,314,674
1923.....	2,915	21,619,354	51,416,766	3,197	45,480,216	61,853,697
1924.....	2,287	16,553,935	42,278,195	2,445	47,590,367	63,325,975
1925.....	2,094	14,511,917	35,505,951	2,337	32,518,709	45,399,425
1926.....	2,085	11,316,925	27,414,401	2,172	25,325,884	36,574,913
1927.....	1,993	10,617,083	25,840,247	2,154	24,312,741	34,177,441
1928.....	1,863	14,182,652	30,451,242	2,100	36,179,540	52,895,907
1929.....	2,091	11,527,584	31,990,900	2,286	29,528,527	44,299,881
1930.....	2,393	20,497,972	45,007,299	2,705	39,231,654	56,289,560
1931.....	2,721	20,893,645	46,058,639	2,516	37,014,665	51,914,404

Failures by Branches of Business.—The majority of the commercial failures of the country are always to be found among the trading establishments. Thus, according to Dun's records, out of a total of 2,516 commercial failures in the Dominion in 1931, 1,724 were those of trading establishments. The aggregate liabilities of the 559 manufacturers who failed in 1931, however, were larger in proportion than those of the traders. The figures are given by these broad groups or the years from 1915 to 1931 in Table 2, while the failures of manufacturers and traders are further analysed for the years 1929 to 1931 in Table 3.

Commercial Failures, by Provinces and Classes, for the calendar year 1931, with Totals for Canada, 1915-30 [From Dun's Review].

NOTE.—Newfoundland included in totals, 1915-1931.

Province.	Total Commercial.			Manufacturing.	
	No.	Assets.	Liabilities.	No.	Liabilities.
		\$	\$		\$
Prince Edward Island.....	8	9,685	38,529	-	-
Nova Scotia.....	65	178,614	664,824	7	133,919
New Brunswick.....	67	376,894	701,127	5	32,110
Quebec.....	997	16,185,493	23,359,403	247	5,276,199
Ontario.....	664	12,087,079	15,158,133	187	5,021,022
Manitoba.....	227	3,454,727	4,719,457	38	1,205,603
Alberta.....	170	1,258,928	2,009,562	7	37,430
Saskatchewan.....	147	1,180,821	1,226,452	17	180,020
British Columbia.....	171	2,282,424	4,036,917	51	1,599,884
Totals, 1931.....	2,516	37,014,665	51,914,404	559	13,486,187
Newfoundland.....	47	599,145	1,073,150	4	14,727
Totals, 1930.....	2,705	39,231,654	56,289,560	615	21,234,587
" 1929.....	2,310	29,572,569	44,440,639	624	19,967,419
" 1928.....	2,120	36,407,391	53,420,199	506	17,032,983
" 1927.....	2,182	24,420,941	34,461,595	502	15,347,401
" 1926.....	2,196	25,668,509	37,082,882	527	16,465,754
" 1925.....	2,371	32,651,834	45,767,825	563	24,046,514
" 1924.....	2,474	47,937,427	64,530,975	625	36,542,658
" 1923.....	3,247	46,833,195	65,810,382	792	31,791,332
" 1922.....	3,695	63,097,789	78,068,959	857	39,080,791
" 1921.....	2,451	57,158,397	73,299,111	559	33,976,790
" 1920.....	1,078	18,569,516	26,494,301	255	15,871,216
" 1919.....	755	10,741,441	16,256,259	213	10,234,477
" 1918.....	873	11,251,341	14,502,477	232	8,248,807
" 1917.....	1,097	13,051,900	18,241,465	261	7,455,094
" 1916.....	1,685	19,670,542	25,069,534	363	8,796,646
" 1915.....	2,661	39,526,358	41,162,321	655	13,877,414

Province.	Trading.		Other Commercial.		Banking.	
	No.	Liabilities.	No.	Liabilities.	No.	Liabilities.
		\$		\$		\$
Prince Edward Island.....	7	35,263	1	3,266	-	-
Nova Scotia.....	53	422,205	5	108,700	-	-
New Brunswick.....	57	620,692	5	48,325	-	-
Quebec.....	651	8,120,029	99	9,963,175	-	-
Ontario.....	410	4,654,526	67	5,482,585	-	-
Manitoba.....	170	2,981,206	19	532,648	-	-
Alberta.....	152	1,514,228	11	457,904	-	-
Saskatchewan.....	118	949,029	12	97,403	-	-
British Columbia.....	106	1,299,193	14	1,137,840	-	-
Totals, 1931.....	1,724	20,596,371	233	17,831,846	-	-
Newfoundland.....	42	999,975	1	58,448	-	-

2.—Commercial Failures in Canada, by Provinces and Classes, for the calendar year 1931, with Totals for 1915-30 [From Dun's Review]—concluded.

Province.	Trading.		Other Commercial.		Banking.	
	No.	Liabilities.	No.	Liabilities.	No.	Liabilities.
		\$		\$		\$
Totals, 1930.....	1,859	20,971,727	231	14,083,246	-	-
" 1929.....	1,546	17,435,263	140	7,037,962	-	-
" 1928.....	1,469	24,540,931	145	11,846,285	-	-
" 1927.....	1,544	16,566,799	136	2,547,395	-	-
" 1926.....	1,548	17,320,905	121	3,296,223	-	-
" 1925.....	1,693	19,514,049	119	2,207,262	-	-
" 1924.....	1,720	21,324,089	125	6,664,228	1	100,900
" 1923.....	2,319	31,339,763	136	2,679,287	1	18,500,900
" 1922.....	2,717	33,004,203	121	5,983,965	4	222,180
" 1921.....	1,739	29,886,569	153	9,435,752	1	45,220
" 1920.....	771	7,704,505	52	2,918,580	-	-
" 1919.....	494	4,475,628	48	1,546,154	-	-
" 1918.....	590	5,142,397	51	1,111,273	-	-
" 1917.....	777	8,417,239	59	2,369,132	-	-
" 1916.....	1,237	12,290,368	85	3,982,520	-	-
" 1915.....	1,888	21,696,890	118	5,558,017	1	150,900

3.—Commercial Failures in Canada and Newfoundland, by Branches of Business, calendar years 1929-31 [From Dun's Review].

Branch of Business.	1929.		1930.		1931.	
	No.	Liabilities.	No.	Liabilities.	No.	Liabilities.
		\$		\$		\$
Manufacturers—						
Iron and foundries.....	7	104,362	8	514,731	10	488,940
Machinery and tools.....	26	993,650	27	1,754,991	37	1,117,100
Woolens, carpets, etc.....	5	224,492	3	99,187	6	33,440
Cotton, hosiery, etc.....	2	206,414	2	59,200	1	20,000
Lumber, carpenters.....	98	3,794,628	111	5,711,336	63	2,450,100
Clothing, millinery.....	128	2,042,500	124	2,172,946	98	1,752,800
Hats, gloves and furs.....	34	887,493	32	416,048	22	328,800
Chemicals and drugs.....	8	267,100	13	141,475	8	91,200
Paints and oils.....	2	38,163	-	-	-	-
Printing and engraving.....	25	146,289	16	177,045	22	429,000
Milling and bakers.....	37	385,803	35	4,334,370	52	401,800
Leather, shoes, etc.....	25	781,774	38	906,881	21	607,900
Liquors and tobacco.....	12	876,000	11	724,814	14	292,800
Glass, earthenware.....	14	635,901	11	173,974	11	337,500
All other.....	201	8,582,845	188	4,062,920	198	5,148,900
Totals, Manufacturers.....	624	19,967,414	619	21,249,918	563	13,500,900
Traders—						
General stores.....	183	1,853,725	250	3,871,344	248	2,626,900
Groceries and meats.....	376	2,537,094	371	2,269,492	368	2,815,400
Hotels, restaurants.....	107	1,147,014	167	1,595,464	150	1,751,500
Liquors and tobacco.....	23	151,569	21	68,743	23	189,200
Clothing, furnishings.....	213	1,989,407	293	3,217,499	299	3,260,500
Dry goods and carpets.....	150	3,173,000	169	2,329,543	153	2,855,900
Shoes, rubbers and trunks.....	57	739,406	68	779,540	73	920,100
Furniture, crockery.....	26	407,914	37	437,295	41	405,000
Hardware, stoves and tools.....	43	497,703	47	452,706	58	552,500
Chemicals and drugs.....	41	311,122	46	385,863	29	179,100
Paints and oils.....	2	15,550	1	500	3	22,000
Jewellery and clocks.....	28	160,791	46	347,752	33	548,100
Books and papers.....	15	129,721	11	113,457	15	97,900
Hats, furs and gloves.....	27	804,670	27	655,203	20	550,400
All other.....	255	3,516,577	334	5,316,428	253	4,821,200
Totals, Traders.....	1,546	17,435,263	1,888	21,840,829	1,766	21,596,800
Agents and Brokers.....	140	7,037,962	234	14,100,746	234	17,890,900
Grand Totals.....	2,310	44,440,639	2,741	57,191,493	2,563	52,987,600

Bradstreet's Record of Commercial Failures.—The number of commercial failures in Canada, together with the assets and liabilities, is shown by provinces for 1930 and 1931 in Table 4, according to Bradstreet's records.

4.—Commercial Failures in Canada, by Provinces, calendar years 1930 and 1931
[From Bradstreet's].

Province.	Number of Failures.		Assets.		Liabilities.	
	1930.	1931.	1930.	1931.	1930.	1931.
	No.	No.	\$	\$	\$	\$
Prince Edward Island.....	—	4	—	10,079	—	24,635
Nova Scotia.....	58	53	222,392	910,187	645,545	580,286
New Brunswick.....	31	66	211,141	286,130	372,412	590,617
Quebec.....	886	1,122	6,727,206	6,935,971	16,887,303	18,512,522
Ontario.....	715	807	7,103,222	6,733,594	15,430,567	13,874,891
Manitoba.....	223	192	1,086,677	1,414,898	2,748,311	4,262,181
Alberta.....	204	197	993,775	1,622,070	1,893,622	2,876,247
Saskatchewan.....	111	92	1,264,411	945,211	1,689,338	1,250,567
British Columbia.....	165	188	2,889,148	2,035,505	5,340,201	4,086,693
Canada.....	2,393	2,721	20,497,972	20,893,645	45,007,299	46,058,639

Assignments under the Bankruptcy and Winding Up Acts.—Under the Bankruptcy and Winding Up Acts (R.S.C., 1927, cc. 11 and 213) certain documents relating to assignments have since 1920 been forwarded to the Dominion Statistician for statistical analysis. Table 5 gives the resulting figures of failures by provinces in 1922 and subsequent years, while Table 6 classifies them by branches of business. Table 7 gives the assets and liabilities of the assignors. A detailed analysis of the 1931 failures, by provinces and branches of business, is made in Table 8.

5.—Commercial Failures in Canada, by Provinces, calendar years 1922-31.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total.
1922.....	15	121	131	1,589	1,058	284	272	299	156	3,925
1923.....	16	155	67	1,181	970	258	280	323	158	3,408
1924.....	3	69	67	907	835	100	131	150	57	2,319
1925.....	4	71	67	758	721	85	77	139	74	1,996
1926.....	4	63	74	654	655	84	68	113	58	1,773
1927.....	4	66	74	658	681	97	54	135	72	1,841
1928.....	4	90	56	767	758	103	63	126	70	2,037
1929.....	1	71	61	927	762	91	84	101	69	2,167
1930.....	3	61	45	1,011	776	113	146	152	95	2,402
1931.....	7	51	74	795	793	109	152	131	104	2,216

6.—Commercial Failures in Canada, by Branches of Business, calendar years 1924-31.

Year.	Trade.	Manu- fac- tures.	Agri- culture.	Log- ging and Fishing.	Mining.	Con- struc- tion.	Trans- por- tation and Public Utilities.	Fi- nance.	Service.	Not class- ified.	Total.
1924.....	1,317	329	204	14	22	44	36	8	129	216	2,319
1925.....	1,026	403	158	14	15	50	21	5	220	84	1,996
1926.....	805	390	135	27	20	52	34	1	225	84	1,773
1927.....	818	430	116	30	26	63	36	—	243	79	1,841
1928.....	884	505	108	31	23	70	45	5	263	103	2,037
1929.....	1,100	443	125	4	11	61	21	5	239	158	2,167
1930.....	1,204	488	115	12	9	55	48	29	283	159	2,402
1931.....	1,107	464	125	5	7	61	42	21	255	134	2,216

7.—Estimated Assets and Liabilities of Commercial Failures in Canada, calendar years 1922-1931.

Year.	Estimated Grand Total Assets.	Estimated Grand Total Liabilities.
1922.....	\$ 52,336,488	\$ 63,692,217
1923.....	62,127,489	61,617,511
1924.....	43,194,035	48,105,300
1925.....	26,968,371	32,153,600
1926.....	24,676,661	32,291,120
1927.....	23,197,894	30,634,460
1928.....	26,583,462	32,455,430
1929.....	32,064,027	38,747,030
1930.....	44,048,171	48,164,330
1931.....	46,839,179	52,552,900

8.—Commercial Failures in Canada, by Provinces and Branches of Business, calendar year 1931, with Totals for 1930.

Branch of Business.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total for 1931.	Total for 1930.
Trade—											
General Stores.....	2	6	9	44	41	14	23	17	3	159	166
Grocery.....	1	4	6	33	32	2	11	8	3	100	122
Confectionery.....	-	4	3	24	25	3	2	8	4	73	69
Drink and Tobacco.....	-	1	-	11	4	-	-	-	-	16	16
Fish and Meat.....	-	-	-	28	23	1	-	8	3	63	53
Boots and Shoes.....	-	2	-	23	25	1	2	2	-	55	77
Dry Goods.....	-	5	2	31	30	2	-	5	2	77	101
Clothing.....	-	4	6	39	38	8	12	10	5	122	144
Furniture.....	-	-	-	8	17	2	-	7	3	37	22
Books and Stationery.....	-	-	-	6	8	1	-	-	-	15	2
Automobile.....	-	1	2	14	17	4	7	4	2	51	44
Hardware.....	-	1	-	9	15	2	5	2	2	36	32
Electric Apparatus.....	-	-	2	7	12	3	2	1	3	30	23
Jewellery.....	-	-	3	10	14	2	1	5	1	36	44
Coal and Wood.....	-	-	1	17	14	-	-	2	3	37	33
Drugs and Chemicals.....	-	1	1	12	11	-	5	-	2	32	26
Miscellaneous.....	2	6	11	51	46	14	17	8	8	163	144
Totals.....	5	35	46	367	372	59	87	87	44	1,102	1,200
Manufacture—											
Vegetable Foods.....	-	-	1	30	30	4	6	3	5	79	61
Drink and Tobacco.....	-	-	-	5	4	-	-	-	-	9	1
Animal Foods.....	-	-	1	11	14	-	-	1	1	30	26
Fur and Leather.....	-	1	2	16	14	4	1	1	2	40	40
Pulp and Paper.....	-	-	-	4	4	-	-	-	-	9	9
Textiles.....	-	-	-	17	16	1	-	-	1	35	1
Clothing.....	1	1	2	26	30	3	4	4	1	72	108
Lumber and Manufactures.....	-	-	-	16	12	-	-	-	5	33	33
Iron and Steel.....	-	-	-	3	7	2	-	-	-	12	12
Non-ferrous Metals.....	-	-	-	11	11	-	-	-	-	22	22
Non-metallic Minerals.....	-	-	-	5	6	-	-	-	1	12	12
Drugs and Chemicals.....	-	-	-	1	-	-	-	-	-	1	1
Miscellaneous.....	-	3	2	42	43	7	5	1	7	110	110
Totals.....	1	5	8	187	191	21	18	10	23	464	444
Service—											
Garages.....	-	2	1	15	24	2	5	2	1	52	52
Other Custom and Repairs.....	-	-	-	20	17	1	2	-	2	42	42
Personal Service.....	-	1	6	20	18	5	8	8	7	73	100
Professional Service.....	-	-	1	6	1	-	-	1	2	12	12
Recreational Service.....	-	-	-	10	9	1	-	2	-	22	22
Business Service.....	-	2	2	15	16	4	3	6	6	54	54
Totals.....	-	6	10	86	85	13	18	19	18	255	242
Other—											
Agriculture.....	-	1	2	56	44	6	7	6	3	125	111
Mining.....	-	-	-	-	3	-	1	1	2	7	7
Logging, Fishing, Trapping.....	-	-	-	2	1	-	-	-	2	5	5
Construction.....	-	1	-	23	25	2	6	2	2	61	61
Transportation and Public Utilities.....	-	1	-	14	19	1	2	2	3	42	42
Finance.....	-	-	1	4	7	2	3	1	3	21	21
Totals.....	-	3	3	99	99	11	19	12	15	261	242
Not Classified.....	1	2	7	56	46	5	10	3	4	134	134
Grand Totals.....	7	51	74	795	793	109	152	131	104	2,216	2,444

CHAPTER XXV.—EDUCATION.

Section 1.—Schools, Colleges and Universities.¹

Throughout the Dominion of Canada public education except for instruction of the native Indian population is a matter of provincial concern. Before Confederation, the maritime colonies were separated from Ontario by French-speaking Quebec, and in each of these an educational system specially adapted to the local conditions had come into existence. When Confederation was under consideration, the protection of existing vested rights was the predominant consideration. As a result, section 93 of the British North America Act, which embodies the Canadian constitution in so far as that constitution is a written one, provides that in and for each province the Legislature may exclusively make laws in respect of education, except that "nothing in any such law shall prejudicially affect any right or privilege with respect to denominational schools which any class of persons have by law in the province at the union".

Inasmuch as the administration of public education is one of the chief functions of Provincial Governments, there is in each of the provinces except Quebec a Department of Education administered either by a member of the Provincial Executive Council or by the Executive Council as a whole. In practice, however, the routine administration is in the hands of the permanent officials of the Department of Education, who are members of the permanent civil service. In Quebec the Superintendent of Education, appointed by the Government, is *ex officio* President of the Council of Public Instruction. The link between the Department of Public Instruction and the Government is the Provincial Secretary; there are also two deputy heads, called the French and English Secretaries of the Department.

Since the Departments of Education are permanent authorities, controlled as to details of administration by permanent officials, educational policy is relatively permanent; further, the control of the Governments over education throughout the provinces is relatively stronger than in the United States. A capable Deputy Minister or Superintendent of Education impresses his personality and his views upon the whole system of his province, especially as in practice he controls the payment of government grants, which constitute, on the average, about 14 p.c. of the expenditure applied to educational purposes.

The Department of Education in each province naturally has its headquarters at the capital of the province. Its local representatives are the school inspectors, who are appointed and paid by the Provincial Governments, except for the "public"

¹ Revised by M. C. MacLean, M.A., F.S.S., Chief, Education Statistics Branch, Dominion Bureau of Statistics. This Branch is concerned with compiling and publishing comparable data relating to educational institutions throughout Canada, and to this end co-operates with the Provincial Departments of Education. A list of the publications of this Branch will be found in Chapter XXIX, Section 1, under "Education".

and "separate" schools in Ontario, where they are appointed by the county or city municipality from a list approved by the province (in all but unorganized districts), and where the cities receive a grant from the province for inspection purposes in place of having inspectors' salaries paid direct.

Education in Quebec.—In Quebec there are two distinct systems of education, in each of which the teaching of religion takes a prominent position—the Protestant and the Roman Catholic systems. In the former, which is under the control of the Protestant Committee of the Council of Public Instruction, with an English Secretary, the curriculum and the general system of education is similar to that in the other provinces, except that the highest grade is Grade XI, from which students are matriculated to McGill University and Bishop's University, the two Protestant English-speaking universities of the province.

In the Roman Catholic schools, which are mainly French-speaking, as the Protestant schools are English-speaking, the administration is in the hands of the Catholic Committee of the Council of Public Instruction, with a French Secretary. General elementary and continuation or "complementary" training is given by means of a curriculum, extending over one preparatory "year", six "years" of an elementary course, and two "years" of a complementary course. Some of these "years" require more than a year to complete, the completion of the "sixth year" corresponding in a general way to the end of the elementary grades, or high school entrance, in other provinces. Beginning in the school year 1929-30, a new superior course of three "years" beyond the complementary course was provided for. These are called the ninth, tenth, and eleventh "years". They enrolled almost 2,400 students in the year of their introduction.

Recent Developments in Provincial Schools.—The provincial school systems continue to show an increasing proportion in the upper grades. For the eight provinces in which the grading is uniform, 13 p.c. of the pupils in 1930 had completed the elementary grades and were giving their full time to study in ordinary or technical high schools. This contrasts strongly with 8 p.c. a decade ago, but there is no doubt that the proportion in 1931 and 1932 is being further augmented. Adolescents are experiencing unusual difficulty in securing employment, and are remaining in school or even returning to school after having been out for a year or more.

Two of the major factors operating to increase the proportions in high schools have doubtless been the raising of the age of compulsory attendance and improved regularity in attendance through the more rigid enforcement of attendance laws. In 1919, the proportion of enrolment in average daily attendance for the Dominion as a whole was 64.7 p.c. By 1930, it had risen to 77 p.c. and was over 70 p.c. in every province. This means that the average pupil was attending at least a month more in 1930 than in 1919, and that something like a full year had been added to his

school life by means of this increased regularity. A second additional year had been added for many by raising the age of obligatory attendance. The following figures offer some indication of the manner in which the schools' results improve with better attendance: In Nova Scotia in 1930 attendance had improved 12 p.c. relatively to 1921, and the average grade of children at the age of fourteen had risen 6 p.c. (allowing equal weight to each grade); in Saskatchewan the attendance had improved 18 p.c., the grade 8 p.c.; in Alberta the rises were 28 p.c. and 11 p.c., respectively.

But more stringent attendance regulations have not been the only factors operating to place more students in the high schools. The secondary schools themselves have been changing in character to serve a wider range of students. Curricula have been altered and broadened in variety to include courses, especially of a technical and vocational character, that it was previously not possible to obtain in the publicly-controlled school systems.

It has been said that 13 p.c. of all pupils are in the secondary grades, but this method of statement does not present an adequate conception of the proportion of the population receiving a high school education. A school-life table constructed by the Dominion Bureau of Statistics shows that 61.8 p.c. of boys and 71.8 p.c. of girls, or two-thirds of the on-coming population, are getting as far as the entrance to high school. Almost half of all are doing some high school work—42.7 p.c. of the boys and 53.8 p.c. of the girls—and one-fifth are reaching the final or matriculation year—17.3 p.c. of the boys and 23.0 p.c. of the girls. The advantage of the girls is greatest in the high school years but exists in smaller degree all the way through school. Its cumulative effect is to give the average girl half a year's more education than the average boy—8.5 years as compared with the boy's 8.0 years.

In terms of certificates—in fact by any available measure—recent years have witnessed a notable improvement in the competence of the teachers employed in the provincial schools. Considered in relation to the greater work that the schools are now doing for the average child, it appears to be partly a cause and partly a result. Better teachers have facilitated the progress of the pupils, and in turn as more pupils get a secondary school education more have qualified for teaching positions and have made it possible for the Departments of Education to raise the standards required for teaching certificates. An indication of the improvement in certification of teachers is given when it is said that in eight provinces the percentage of teachers with second class or higher certificates has increased since 1914 from 67 to 95, third class and other temporary licences having practically disappeared, especially in the western provinces, in spite of the fact that the requirements for the

higher classes of certificate have been made more exacting. The proportion of men in the teaching profession has increased steadily since the close of the War, when it was at the abnormally low figure of 15.5 p.c., and now amounts to 21.1 p.c. for the Dominion as a whole, which compares with 19.2 p.c. for the last year before the outbreak of the War.

After observing the general raising of standards in teachers' certification it is of interest to note some of the provisions that have been made for their more advanced training. There is the establishment within the last few years of new professional training courses in several of the universities—Saskatchewan, Alberta, Montreal and, less recently but within the past decade, in the Maritime universities and British Columbia. The lengthening of courses in the normal schools has been general, culminating in the experiment of Ontario in bringing teachers back for a second term at normal school after they have attended a full school year and done some teaching.

Summer schools for teachers, with one or two exceptions, are an innovation of the last two decades, but have come to occupy an important place in the academic and pedagogical improvement of the teaching profession. Most of the provincial Departments of Education now offer courses during July and August at one or more centres, frequently in co-operation with universities, while in addition many of the universities and colleges conduct classes independently. The sessions ordinarily last from four to seven weeks, and in the summer of 1930 had an attendance of more than 9,000 of whom 7,500 or more were teachers. This represents more than one-tenth of all teachers in the Dominion.

Educational Institutions other than Provincial Schools.—Beyond the scope of the provincial Departments of Education there are the Dominion Government schools for native Indians. The work of these is reviewed in Chapter XXVII of this volume. There are also some schools under private management in each province, not supported by public funds, and in which the Departments of Education take only a secondary interest. Except in Quebec, where they enrol 10 p.c. of all pupils (and where about half of them do receive grants), their numbers are comparatively small. In 1930 those offering a general education enrolled 32,216 pupils in eight provinces, or about 2 p.c. of the school population, while those giving training in commercial subjects only enrolled a further 26,014. Practically all of the latter group, and about 35 p.c. of the former, are of post-elementary grade.

Six of the provinces have provincial universities and the others have certain colleges belonging to the higher educational systems. But the colleges not provin-

ially-administered are more numerous and all are reviewed as a single group in the present chapter after provincial schools.

Summary Statistics of Education.—The recorded attendance at Canadian educational institutions in 1930 was 2,490,623. To serve this number of pupils, 3,144 teachers and 32,209 schools or colleges were required at a cost of \$165,361,198. Roughly, the schools reached a quarter of the country's population and involved an average expenditure of \$66 on each person enrolled. Four out of every five enrolled were in the elementary school grades, while one had completed his elementary education and was continuing his studies. One-seventh of the aggregate were practically adults—over sixteen years of age—and of these every third person was pursuing studies by means of evening classes. A concise numerical summary of educational institutions in Canada for the year follows:—

Type of Institution.	Institutions.	Pupils.	Teachers.	Expenditures.
	No.	No.	No.	\$
) Provincially-controlled Schools—				
Ordinary day.....	30,188	2,106,878	64,880	135,901,082
Technical day.....	100	47,742	1,784	
Technical evening.....	340	111,301	2,914	
Normal schools.....	46	7,360	467	
Blind and deaf.....	11	1,764	300 ¹	
) Privately-controlled Schools—				
Ordinary day.....	795	92,275	5,518	6,672,000 ¹
Business training.....	182	29,120	679	
) Dominion Indian Schools.....				
	342	15,743	500 ¹	2,330,437
) Universities or Colleges—				
Preparatory.....	46 ²	19,783	1,394	20,367,679
University grade.....	152	37,400	4,708	
Others.....	7 ²	21,257		
Totals.....	32,209	2,490,623	83,144	165,361,198

¹ Estimated. ² Including only affiliated schools that are not enumerated in "university grade".

Table 1 gives a more detailed summary of all institutions by provinces after which there follow two statistical subsections dealing respectively with the provincially-controlled schools, and institutions of higher education.

1.—Summary of Educational Institutions in Canada

A. ENROLMENT

		P.E.I.	N.S.	N.B.
1	Ordinary day schools—			
	(a) Publicly-controlled.....	17,277	113,860	85,711
	(b) Privately-controlled.....	573	2,833	3,651
2	Technical and vocational schools—			
	(a) Dominion-subsidized day courses ³	1,025	2,031	1,254
	(b) Dominion-subsidized evening and correspondence ³	69	4,694	1,994
	(c) Business colleges, day courses.....	149	576	533
	(d) Business colleges, evening courses.....	45	211	711
3	Normal schools.....	With 4 (a)	580	904
4	Universities and colleges—			
	(a) Preparatory courses.....	386	1,124	364
	(b) University standard.....	107	2,165	1,132
	(c) Other courses at university ⁴	—	668	—
5	Schools for blind and deaf ⁷	11	178	71
6	Indian schools.....	34	286	294
	Grand Totals	19,676	129,206	95,644
	Population of 1931	88,033	512,846	408,211
7	Secondary grades or higher, 2 (b) unclassified.....	3,591	21,264	12,285
8	Elementary grades.....	16,016	103,248	81,359

B. EXPENDITURE

9	Publicly-controlled schools,—i.e., 1 (a), 2 (a), (b), 3 (a), (b) and 5 above: (a) By Provincial Governments.....	306,390	916,856	495,883
	(b) By ratepayers, etc.....	189,669	3,053,169	2,618,031
10	Privately-controlled schools, i.e., 1 (b), 2 (c) above, (estimated).....	19,000	109,000	132,000
11	Universities and colleges.....	74,589	1,081,399	342,551
12	Indian schools.....	722	105,256	17,381
	Totals	590,370	5,265,680	3,605,845

C. FURTHER INFORMATION ON ORDINARY DAY SCHOOLS

13	Enrolment—			
	Boys.....	8,670	56,687	42,331
14	Girls.....	8,607	57,173	43,401
15	In elementary grades.....	15,214	100,945	75,732
16	In secondary grades.....	1,756	12,915	—
17	In urban schools.....	6,516	75,238	46,771
18	In rural schools.....	10,761	38,622	39,001
19	Attendance—			
	Average daily attendance.....	12,201	85,080	64,381
20	Average (median) days per pupil.....	151	167	—
21	Average number of days schools open.....	191	196	191
22	Percentage of enrolment in average attendance.....	70.6	74.8	75.5
23	Teachers, totals.....	617	3,448	2,601
24	Male.....	135	296	241
25	Female.....	482	3,152	2,360
26	Accommodation—			
	Number of school districts.....	467	1,736	1,441
27	Number of school houses.....	467	—	—
28	Number of class-rooms.....	615	3,191	2,441
29	Number of pupils per class-room.....	28	36	—
30	Number of rural schools.....	412	1,441	1,831

¹ Figures for 1 (a) and 1 (b) in Quebec are for 1928-29; for 1 (a) in Ont., except secondary schools, and for calendar year 1929; all others are for 1929-30.

² Includes 232 in the Yukon in 1 (a), 467 in the Yukon and N.W.T. in 6, and 11,363 in population.

³ Includes 6,932 in non-technical night schools in Ont.; in Quebec, non-subsidized day courses at two schools, and 23,775 in non-subsidized evening domestic science courses.

by Provinces, 1930, or Latest Year Reported.¹

MENT.

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total. ²	
521,057	712,919	151,846	228,434	164,519	111,017	2,106,878	1
60,059	9,518	4,807	2,050	3,557	5,228	92,275	2
6,203	25,558	3,058	1,144	2,577	4,887	47,742	3
38,291	51,363	3,926	1,701	2,467	6,891	111,301	4
2,016	9,518	1,980	1,153	1,392	2,082	19,396	5
1,090	4,476	1,565	459	912	755	9,724	6
1,985	1,482	549	1,296	803	365	7,360	7
13,710	2,585	718	404	285	2	19,783	8
10,616	14,234	3,322	2,086	1,461	2,270	37,400	
6,301	10,590	882	1,596	66	1,152	21,257	
733	453	109	67	55	86	1,704	
1,433	4,105	2,298	2,001	1,530	3,291	15,743	
663,494	846,801	175,060	242,391	179,624	138,026	2,490,623	
2,874,255	3,431,683	700,139	921,785	731,605	694,263	10,374,196	
68,676	152,476	28,543	33,094	28,776	28,571	377,258	
556,527	642,962	142,591	207,596	148,381	102,564	2,001,365	

TURES.

4,952,778	5,397,446	1,285,898	2,826,700	1,355,963	3,136,492	20,674,409	9
19,462,517	49,609,553	9,040,169	13,523,491	11,465,104	6,264,939	115,226,673	10
3,142,000	1,646,000	501,000	256,000	352,000	605,000	6,762,000	11
6,939,697	7,336,009	1,394,965	1,336,968	847,498	1,014,040	20,367,679	12
78,552	415,392	385,268	397,252	326,772	532,579	2,330,437	
34,565,544	64,404,400	12,607,300	18,340,411	14,347,337	11,553,050	165,361,198	

LS UNDER PUBLIC CONTROL (ITEM I (A) ABOVE).⁵

283,779	373,869	76,377	114,845	83,586	56,125	1,096,248	13
239,594	364,608	75,469	113,589	84,490	54,892	1,095,769	14
-	634,211	136,027	203,293	146,796	94,847	-	15
-	104,266	15,819	24,451	21,280	16,170	-	16
-	494,628	109,880	99,743	88,741	68,707	-	17
-	243,849	41,966	128,691	79,335	42,310	-	18
464,224	547,334	117,037	169,893	132,573	96,196	1,688,918	19
-	-	164	172	173	-	-	20
-	-	194	204	190	-	-	21
80.4	74.1	77.0	74.3	78.8	86.6	77.0	22
20,513	20,127	4,378	8,517	5,705	3,854	69,820	23
3,639	3,971	831	2,285	1,405	1,116	14,731	24
16,874	16,156	3,547	6,232	4,300	2,738	55,089	25
6,826	7,003 ⁶	2,222	4,878	3,563	803	28,977	26
7,971	7,706	2,019	-	-	1,135	-	27
19,000 ⁶	18,500 ⁶	4,266	6,732	5,558	3,595	63,898	28
30	39	36	34	30	31	-	29
-	6,159	-	-	3,037	964	-	30

⁴ Includes also 413 in the Departmental summer schools for teachers in N.S., 4,066 in Ont., and 446 in C., not held at universities or colleges.⁵ Includes also 1 (b) in Quebec and Alberta, and 2 (a) in Ontario except under "number of school districts".⁶ Estimated.⁷ These students are entered according to province of residence. There are schools in five provinces.

Subsection 1.—The Provincially-Controlled Schools.

It is considered that the best general test of the efficiency of public general education in Canada is furnished by the statistics of Table 2, showing the 1930 age-grade distribution of 1,459,826 pupils in the provincially-controlled schools of seven provinces. Many other tables of this form, analysing age-grade distribution by provinces, by sex, and by rural and urban areas and graded or ungraded schools, may be consulted in the Dominion Bureau of Statistics' Annual Survey of Education in Canada, 1930, pp. 18-39.

2.—Provincially-Controlled Schools in Canada; Distribution of 1,459,826 Pupils in Seven Provinces, by Age and Grade, 1930.

Age.	Elementary Grades.								
	K. and K.P. ¹	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
4.....	—	147	—	—	—	—	—	—	—
5.....	1,863	6,486	62	1	—	—	—	—	—
6.....	16,603	57,428	4,418	237	10	—	—	—	—
7.....	7,638	96,712	32,694	3,815	337	16	—	—	—
8.....	1,662	58,176	60,679	24,129	6,192	454	35	1	—
9.....	408	21,842	42,348	43,005	34,218	7,179	635	31	—
10.....	117	8,960	19,876	31,167	48,631	34,469	6,967	722	11
11.....	42	3,449	8,061	14,503	31,481	43,656	27,992	6,456	1,20
12.....	24	1,797	3,747	7,221	17,852	31,704	39,652	24,634	8,27
13.....	9	1,074	1,946	3,719	9,547	19,995	30,327	33,920	26,67
Totals, 7-13.....	9,900	192,010	169,351	127,559	148,258	137,473	105,608	65,764	36,37
14.....	13	518	872	1,869	4,811	11,007	19,313	27,151	36,22
15.....	1	246	419	801	2,026	4,878	9,482	17,558	28,24
16.....	1	103	144	255	648	1,512	3,299	5,742	13,37
17.....	1	56	59	85	189	450	1,019	1,822	4,47
Totals, 14-17.....	16	923	1,494	3,010	7,674	17,847	33,113	52,273	82,32
18.....	—	27	14	22	52	106	120	247	74
19.....	2	65	33	35	40	79	49	72	21
Grand Totals.....	28,384	257,086	175,372	130,864	156,034	155,505	133,890	118,356	119,65

Age.	Secondary Grades.					Totals.		Grand Total.
	IX.	X.	XI.	XII.	Special.	Elementary.	Secondary.	
4.....	—	—	—	—	—	147	—	147
5.....	—	—	—	—	—	8,412	—	8,412
6.....	—	—	—	—	—	78,696	—	78,696
7.....	—	—	—	—	—	141,212	—	141,212
8.....	—	—	—	—	—	151,328	—	151,328
9.....	1	—	—	—	—	149,671	1	149,672
10.....	28	—	—	—	—	151,027	28	151,055
11.....	456	26	1	—	—	136,937	483	137,420
12.....	3,808	469	19	—	1	134,908	4,297	139,205
13.....	13,094	3,258	367	5	11	127,214	16,735	143,949
Totals, 7-13.....	17,387	3,753	387	5	12	992,297	21,544	1,013,841
14.....	22,502	10,121	2,859	67	40	101,779	35,589	137,368
15.....	20,828	15,818	8,492	537	155	63,658	45,830	109,488
16.....	11,027	12,954	11,668	2,044	232	25,082	37,925	63,007
17.....	3,748	6,116	8,864	3,475	235	8,159	22,438	30,593
Totals, 14-17.....	58,105	45,009	31,883	6,123	662	198,678	141,782	340,460
18.....	935	2,167	4,487	2,780	137	1,328	10,506	11,835
19.....	475	959	2,233	2,007	171	591	5,845	6,436
Grand Totals.....	76,902	51,888	38,990	10,915	982	1,280,149	179,677	1,459,826

¹ Kindergarten and kindergarten-primary.

General elementary and secondary education throughout the Dominion, in so far as it is provincially-controlled, is carried on, except in Quebec, in free schools supported by general taxation. These schools may be divided into 12 grades, 8 of which are normally considered to be elementary and 4 secondary. The twelfth grade is in most provinces a postgraduate year, corresponding to the first year of a university course. The average pupil takes one school year to complete each grade, so that entering school at 6 years of age, he would matriculate to the university at 17 or 18.

An historical summary of the enrolment and average attendance in provincially-controlled schools from 1824 to 1930 is given by provinces in Table 3. The totals of pupils enrolled in all provinces in the years 1867, 1871, 1881, 1891 and 1901 are approximations, based in certain cases upon provincial statistics for the nearest available years.

3.—Historical Summary of Enrolment and Average Attendance in Schools in Canada, by Provinces, 1824-1930.

TOTAL NUMBER ENROLLED, 1824-1930.

Year.	P.E.I.	N.S.	N.B.	Que. ³	Ont. ⁴	Man.	Sask.	Alta.	B.C.	Canada.
1811....	-	1	-	-	-	-	-	-	-	-
1824....	-	5,514	-	-	-	-	-	-	-	-
1829....	-	12,000	-	18,410	-	-	-	-	-	-
1835....	-	15,292	-	37,000	-	-	-	-	-	-
1845....	-	-	15,924	-	-	-	-	-	-	-
1846....	-	33,960	-	60,000 ²	-	-	-	-	-	-
1850....	-	-	-	-	151,981 ²	-	-	-	-	-
1852....	2	-	-	-	179,857	-	-	-	-	-
1861....	-	33,652	27,982	-	-	-	-	-	-	-
1864....	-	35,405 ²	30,632	-	-	-	-	-	-	-
1866....	-	50,574	30,263	-	-	-	-	-	401	-
1867....	-	65,869	31,364	-	403,339	-	-	-	-	718,000
1868....	-	68,612	31,988	205,530	-	-	-	-	-	-
1871....	-	75,995	33,981 ²	-	-	817	-	-	-	803,000
1872....	-	73,638	39,837	-	462,630	-	-	-	514 ³	-
1873....	-	74,297	42,611	216,992	-	-	-	-	1,028	-
1876....	-	79,813	64,689	-	499,078	2,734	-	-	1,685	-
1881....	21,501	78,828	65,651	227,935	489,404	4,919 ²	-	-	2,571	891,000
1886....	22,414	85,714	68,367	-	502,840	15,926	2,553	4,471	-	-
1891....	22,330	83,548	68,992	265,513	-	23,871	5,652	9,260	993,000	-
1892....	22,169	85,077	68,909	268,535	508,507	23,243	6,170	10,773	993,383	-
1894....	22,221	98,701	69,648	274,915	506,726	32,680	10,721	12,613	1,028,225	-
1895....	22,250	100,555	68,761	286,180	509,213	35,371	11,972	13,482	1,047,784	-
1896....	22,138	101,032	68,297	293,584	506,515	37,987	12,796	14,460	1,056,809	-
1901....	20,779	98,410	66,689	314,881	492,534	51,888	-	23,615	1,083,000	-
1903....	19,956	98,768	65,951	326,183	487,880	57,409	33,191	24,499	1,113,837	-
1904....	19,031	96,886	65,278	329,666	484,351	58,574	41,033	25,787	1,120,606	-
1905....	19,272	100,252	66,897	335,768	487,635	63,287	25,191	24,254	27,354	1,149,909
1906....	18,986	100,332	66,635	341,808	492,544	64,123	31,275	28,784	28,522	1,173,009
1907....	19,036	100,007	66,422	347,614	493,791	67,144	37,622	34,338	30,039	1,196,013
1908....	18,012	100,105	66,383	352,944	501,641	71,031	47,086	39,653	33,223	1,230,169
1909....	18,073	101,680	67,735	367,012	507,219	73,044	55,116	46,048	36,227	1,272,204
1910....	17,932	102,035	68,154	374,547	510,700	76,247	65,392	55,307	39,670	1,310,117
1911....	17,397	102,910	68,951	389,123	518,605	80,848	72,260	61,660	49,451	1,356,879
1913....	17,555	105,269	69,663	411,784	542,822	83,679	101,463	79,909	57,384	1,469,752
1914....	19,069	106,351	70,622	435,895	561,927	93,954	113,985	89,910	61,957	1,552,972
1915....	18,402	107,768	72,013	448,087	569,030	100,963	122,862	97,286	64,264	1,601,035
1916....	18,362	109,189	73,007	464,447	560,340	103,796	129,439	99,201	64,570	1,622,351
1917....	18,190	109,032	71,981	463,390	561,865	106,588	142,617	107,727	65,118	1,646,508
1918....	17,861	108,097	71,782	467,508	564,655	109,925	151,326	111,109	67,516	1,669,776
1919....	17,587	106,982	71,029	486,201	584,724	114,662	164,219	121,567	72,006	1,738,977
1920....	17,354	108,096	72,988	495,887	604,923	123,452	174,925	135,750	79,243	1,812,618
1921....	17,510	109,483	73,712	512,651	632,123	129,015	184,871	124,328 ³	85,950	1,869,643
1922....	18,323	114,229	77,774	530,705	654,893	136,876	183,935	142,902	91,919	1,951,556
1923....	17,742	114,458	78,753	537,406	667,922	142,369	194,313	148,045	94,888	1,995,896
1924....	17,281	111,594	79,265	541,485	671,311	144,491	204,154	147,373	96,204	2,013,158
1925....	17,427	112,352	80,145	548,519	677,458	145,834	206,595	147,796 ³	97,954	2,034,080
1926....	17,324	112,391	80,769	552,832	686,285	148,279	213,404	150,526 ³	101,688	2,063,498
1927....	17,210	112,556	80,690	557,732	700,476	148,763	218,560	154,380 ³	105,008	2,095,375
1928....	17,214	112,898	82,170	565,845	708,081	150,883	223,049	159,086 ³	108,179	2,127,405
1929....	17,180	113,309	83,580	577,373	712,919	150,517	227,263	164,850 ³	109,558	2,156,549
1930....	17,277	113,860	85,635	-	-	151,846	228,434	168,076 ³	111,017	-

¹Common school system formed. ²Free school system established. ³Primary schools only. ⁴Half year only. ⁵Including private schools from 1925.

3.—Historical Summary of Enrolment and Average Attendance in Schools in Canada, by Provinces, 1824-1930—concluded.

AVERAGE DAILY ATTENDANCE, 1871-1930.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
1871....	-	43,612	-	-	-	-	-	-	-	-
1873....	-	41,392	-	-	-	-	-	-	575	-
1876....	-	45,373	-	-	217,202	-	-	-	984	-
1881....	-	43,461	36,688	-	222,534	-	-	-	1,367	-
1891....	12,898	49,347	-	-	-	12,443	-	-	5,135	-
1892....	12,986	50,975	-	205,623	-	12,976	-	-	6,227	-
1895....	13,250	54,007	-	221,168	-	19,516	-	-	8,610	-
1896....	13,412	54,016	-	220,969	-	20,247	-	-	9,254	-
1901....	12,330	53,643	37,473	232,255	275,234	27,550	-	-	15,335	669,000
1903....	12,112	55,213	38,032	243,123	275,385	36,479	16,321	-	16,627	704,000
1904....	11,722	54,000	37,567	246,319	273,815	31,326	20,918	-	17,071	705,000
1905....	11,627	56,342	39,402	255,420	281,674	33,794	13,493	13,375	18,871	724,171
1906....	11,903	59,165	38,482	263,111	285,330	34,947	15,770	14,782	19,809	743,496
1907....	11,543	57,173	38,790	266,510	284,998	37,279	19,841	17,310	20,459	754,060
1908....	11,647	58,343	40,202	271,019	292,052	40,691	26,081	18,923	23,473	783,581
1909....	11,543	61,787	42,501	285,729	295,352	41,405	28,998	22,225	25,662	815,449
1910....	11,632	65,630	42,596	293,035	299,747	43,885	34,517	29,611	28,423	849,344
1911....	10,511	61,250	42,791	301,678	305,648	45,303	38,278	32,556	32,517	870,801
1913....	11,003	65,686	44,375	324,447	330,474	48,163	56,005	45,888	43,072	969,380
1914....	11,170	66,599	44,534	344,657	346,509	58,778	65,009	54,582	49,090	1,041,108
1915....	11,694	70,361	47,889	360,897	365,959	68,250	72,113	61,112	52,494	1,111,075
1916....	11,347	69,227	48,069	373,364	355,364	66,561	71,522	60,271	50,880	1,140,793
1917....	11,319	70,118	46,860	367,468	369,081	69,209	88,758	65,374	52,577	1,141,065
1918....	11,334	67,923	46,515	369,057	329,972	69,968	91,010	68,489	54,748	1,107,467
1919....	10,908	65,906	45,797	365,803	388,768	72,072	98,791	74,776	56,692	1,179,513
1920....	10,991	66,442	46,950	372,377	396,141	88,563	101,355	82,417	59,791	1,237,146
1921....	11,446	78,238	49,655	397,172	446,396	86,137	113,412	89,401	68,597	1,335,454
1922....	12,338	79,410	51,590	421,604	470,073	95,433	119,041	100,515	75,528	1,425,532
1923....	11,763	83,472	53,611	422,159	474,859	98,787	130,499	105,364	77,752	1,458,266
1924....	11,783	79,509	58,179	430,184	487,410	103,775	139,782	105,852	79,262	1,506,698
1925....	12,259	80,318	58,182	437,988	496,355	104,312	144,650	107,880	82,721	1,524,665
1926....	11,823	80,446	58,346	443,255	498,662	106,809	152,430	110,928	85,293	1,547,992
1927....	11,777	81,426	60,426	448,018	513,071	106,793	157,392	115,125	88,306	1,582,334
1928....	12,123	82,591	61,377	457,009	517,463	114,270	157,207	119,084	91,760	1,619,542
1929....	12,144	84,275	61,127	464,224	562,702	116,766	161,658	123,480	94,410	1,644,786
1930....	12,201	85,080	67,156	-	-	117,037	169,893	132,573	96,196	-

4.—Total Pupils Enrolled and in Average Attendance, and Total in High School Grades, in Cities of 10,000 or over, by Sex, 1930, or Latest Year Reported.

City.	Number of Pupils Attending General Schools.				Number of Pupils in High School Grades (included in Total, General Schools).		
	Boys.	Girls.	Total.	Average Attendance.	Boys.	Girls.	Total.
Montreal, Que. ¹	73,369	74,497	147,866	118,832	—	—	—
Toronto, Ont.....	62,401	58,827	121,228	88,362	5,762	4,265	10,846 ²
Winnipeg, Man.....	21,093	20,655	41,748	38,342	2,965	3,210	6,175
Vancouver, B.C.....	20,394	19,638	40,032	35,229	3,442	3,539	6,981
Hamilton, Ont.....	16,220	15,469	31,689	24,561	1,090	867	2,343 ²
Ottawa, Ont.....	12,954	11,780	24,734	19,408	1,209	1,012	2,902 ²
Quebec, Que. ¹	11,983	12,361	24,344	20,537	—	—	—
Calgary, Alta.....	8,721	8,701	17,422	15,138	1,275	1,762	3,037
London, Ont.....	6,980	6,899	13,879	11,318	914	930	1,999 ²
Edmonton, Alta.....	9,007	9,702	18,709	15,996	1,441	2,092	3,533
Halifax, N.S.....	6,107	6,100	12,207	10,053	468	605	1,073
Saint John, N.B.....	4,698	4,912	9,610	8,358	395	615	1,010
Victoria, B.C.....	3,037	3,117	6,154	5,558	559	681	1,240
Windsor, Ont.....	8,379	7,859	16,238	11,835	635	558	1,193
Regina, Sask.....	5,023	5,194	10,217	—	933	1,129	2,062
Brantford, Ont.....	3,302	3,348	6,650	5,160	327	371	751 ²
Saskatoon, Sask.....	4,696	5,039	9,735	—	924	1,216	2,140
Sydney, N.S.....	2,934	2,938	5,872	4,827	353	316	669
Kitchener, Ont.....	3,218	3,192	6,410	5,161	254	268	587 ²
Kingston, Ont.....	2,346	2,315	4,661	3,586	353	319	672
Sault Ste. Marie, Ont.....	3,049	3,017	6,066	4,659	269	293	916 ²
Peterborough, Ont.....	2,501	2,452	4,953	3,816	221	225	639 ²
Fort William, Ont.....	3,353	3,421	6,774	5,595	301	329	780 ²
St. Catharines, Ont.....	2,825	2,825	5,650	4,402	260	329	589
Moose Jaw, Sask.....	2,795	2,776	5,571	—	448	567	1,015
Guelph, Ont.....	2,329	2,113	4,442	3,389	299	260	606 ²
Moncton, N.B.....	2,269	2,260	4,529	3,910	199	245	444
Glace Bay, N.S.....	2,583	2,750	5,333	4,249	136	221	357
Stratford, Ont.....	2,134	1,951	4,085	3,230	360	266	626
St. Thomas, Ont.....	1,716	1,733	3,449	2,782	227	255	538 ²
Brandon, Man.....	2,003	2,054	4,057	—	274	319	593
Port Arthur, Ont.....	2,290	2,242	4,532	3,555	189	232	658 ²
Sarnia, Ont.....	1,932	1,903	3,835	3,024	231	241	525 ²
Niagara Falls, Ont.....	2,070	1,950	4,020	3,104	185	128	313
New Westminster, B.C.....	1,843	1,829	3,672	3,226	418	453	871
Chatham, Ont.....	1,745	1,640	3,385	2,613	242	228	470
Balt, Ont.....	1,487	1,500	2,987	2,316	157	180	337
St. Boniface, Man.....	1,005	2,144	3,149	2,618	104	268	372
Charlottetown, P.E.I.....	1,067	962	2,019	—	94	123	217
Bellefleur, Ont.....	1,528	1,478	3,006	2,270	197	250	447
Dwen Sound, Ont.....	1,444	1,364	2,808	2,182	160	185	345
Shawna, Ont.....	2,566	2,511	5,077	3,920	257	226	483
Leithbridge, Alta.....	1,597	1,585	3,182	2,737	263	365	628
North Bay, Ont.....	2,017	1,990	3,907	3,160	217	153	370
Velland, Ont.....	1,358	1,329	2,687	2,010	168	124	292
Sudbury, Ont.....	2,034	1,997	4,031	2,770	140	153	324 ²
Woodstock, Ont.....	1,075	1,135	2,210	1,717	234	246	500 ²
Medicine Hat, Alta.....	1,405	1,457	2,862	2,495	235	310	545

¹Primary schools including Protestant high schools, 1929. The high school enrolment is not given because it would not be complete without including the high school pupils of the classical colleges and independent classical schools and of the normal schools. ²The figures by sex represent high schools and collegiate institutes only; the totals include pupils in fifth classes.

Secondary Education.—In the past quarter of a century the number of pupils of both sexes doing work of secondary grade has shown a very great absolute increase as well as a large increase relative to the number in elementary grades. The available statistics are given by years in Table 5, and show that in each of the

provinces and in every year the number of girls in the secondary grades has exceeded the number of boys. The drop in the Ontario figures between 1915 and 1917 is due in part to the change in the statistical year from the calendar year to the natural school year from September to June.

5.—Provincially-Controlled Schools in Canada: Comparative Numbers of Boys and Girls Doing Work of Secondary Grade in each of Seven Provinces, 1901-30.¹

Year.	N.S.		N.B. ²		Ontario.		Manitoba.		Sask.		Alberta.		B.C.	
	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.
1901.....	-	-	-	-	10,869	11,654	-	-	-	-	-	-	215	369
1902.....	-	-	-	-	11,629	12,843	-	-	-	-	-	-	313	471
1903.....	-	-	-	-	11,988	13,734	-	-	-	-	-	-	316	549
1904.....	2,496	4,499	-	-	12,718	14,991	-	-	-	-	-	-	381	606
1905.....	2,732	4,554	-	-	13,035	15,626	-	-	-	-	-	-	433	657
1906.....	2,775	4,864	-	-	13,336	16,056	-	-	-	-	-	-	412	763
1907.....	2,792	4,854	-	-	13,799	16,532	-	-	-	-	-	-	432	823
1908.....	2,985	4,928	-	-	14,731	17,181	-	-	335	399	-	-	613	857
1909.....	3,076	5,048	-	-	15,776	17,325	-	-	504	643	-	-	812	997
1910.....	3,181	5,476	-	-	15,196	17,416	-	-	623	804	-	-	919	1,122
1911.....	3,211	5,463	-	-	17,073	20,907	-	-	766	927	-	-	940	1,046
1912.....	3,132	5,536	-	-	17,345	21,022	-	-	885	1,129	-	-	973	1,178
1913.....	3,175	5,461	-	-	17,718	21,572	-	-	1,028	1,326	-	-	1,232	1,446
1914.....	3,216	5,687	-	-	19,475	23,060	-	-	1,034	1,622	-	-	1,414	1,593
1915.....	3,436	6,041	-	-	20,508	24,718	-	-	1,545	2,038	-	-	1,844	2,068
1916.....	3,466	6,260	-	-	-	-	-	-	1,566	2,283	-	-	2,260	2,510
1917.....	3,051	6,037	-	-	14,318	19,597	-	-	1,445	2,441	-	-	2,074	2,767
1918.....	3,082	6,115	-	-	13,342	19,859	-	-	1,523	2,561	-	-	2,151	2,999
1919.....	3,024	6,114	-	-	15,095	20,643	-	-	1,910	2,841	-	-	2,392	3,414
1920.....	3,313	6,178	-	-	16,682	21,480	-	-	2,492	3,425	-	-	3,826	3,810
1921.....	3,425	6,280	-	-	17,525	22,426	3,524	5,091	2,494	3,423	3,088	4,421	3,093	4,166
1922.....	4,202	6,937	-	-	21,408	25,502	-	-	2,423	3,204	4,707	6,055	3,788	4,846
1923.....	4,715	7,373	-	-	24,708	28,700	5,367	7,242	5,519	8,028	5,286	6,976	4,046	5,174
1924.....	4,415	7,217	1,363	2,074	26,417	31,183	-	-	6,604	9,410	5,877	7,569	4,380	5,509
1925.....	4,696	7,157	1,498	2,171	28,804	33,857	-	-	7,255	10,171	6,321	8,392	4,711	5,686
1926.....	4,605	7,343	1,535	2,264	29,281	34,175	5,560	7,991	8,140	11,361	6,658	7,795	5,306	6,473
1927.....	4,498	7,472	1,561	2,474	29,187 ²	33,867 ²	-	-	8,315	11,721	6,846	9,642	6,308	7,545
1928.....	4,633	7,483	1,637	2,490	31,000 ²	34,884 ²	5,665	8,498	8,497	12,405	7,614	10,604	7,494	8,865
1929.....	4,809	7,222	1,600	2,544	31,828 ²	35,125 ²	6,458	8,626	9,197	13,397	8,089	11,844	9,350	10,661
1930.....	4,931	7,984	1,902	2,899	31,847 ²	34,056 ²	6,576	8,586	10,226	14,223	9,232	12,048	9,609	10,900

¹1924—P.E.I., inc. P.W.C., 719-1,113; 1925—P.E.I., inc. P.W.C., 669-1,087; 1926—P.E.I., inc. P.W.C., 704-1,070; 1927—P.E.I., inc. P.W.C., 669-1,132; 1928—P.E.I., inc. P.W.C., 620-1,216; 1929—P.E.I., inc. P.W.C., 716-1,217; 1930—P.E.I., inc. P.W.C., 696-1,152. ²Includes the pupils of continuation schools, high schools and collegiate institutes only. In the school year 1930 in all secondary grades reported there were approximately 47,287 boys and 52,277 girls. These included full-time day vocational, public and separate schools. The figures in the tables are for comparative purposes confined to continuation and high schools and collegiate institutes. ³The figures given for New Brunswick are approximate.

Subjects of Instruction in Secondary Grades.—The subjects taken in the elementary grades of the provincially-controlled schools are settled by the curriculum, but in the secondary grades there are usually options appealing to different types of pupils, wishing to follow different callings. Statistics of the subjects taken by pupils in secondary grades in 1930, available for six provinces, are presented in Table 6, showing among other things the small number of pupils taking Greek and German and the high proportion studying French and Latin. The Annual Survey of Education in Canada, 1930, shows in detail the changes in the subjects chosen by secondary grade pupils in the different provinces in recent years.

6.—Provincially-Controlled Schools in Canada: Numbers of Pupils Taking Certain Secondary Grade Subjects in each of Six Provinces, 1930.

NOTE.—The numbers taking the listed subjects include all pupils of secondary grade in N.S.; secondary pupils enrolled during the second term in N.B.; pupils in secondary schools only (not including secondary pupils in other than secondary schools) in Ontario, Saskatchewan, Alberta and British Columbia. The totals show the total enrolment in the schools represented.

Subject.	Nova Scotia.	New Brunswick.	Ontario.	Saskatchewan.	Alberta.	British Columbia.	Total.
English.....	12,626	3,947	84,513	6,880	8,881	19,700	136,556
History.....	4,088	3,898	11,781 ¹	6,891 ²	2,079 ²	17,108	45,845
Geography.....	3,736		32,777	3,771	1,616	4,625	50,424
Arithmetic and Mensuration..	5,489	3,017	37,858	4,863	2,719	14,736	68,682
Algebra.....	12,356	3,852	47,552	6,240	8,036	15,771	93,807
Geometry.....	6,526	3,879	35,969	5,896	6,737	15,388	74,895
Trigonometry.....	1,251	104	4,552	1,027	960	513	8,412
French.....	10,284	3,764	64,408	5,536	5,918	13,472	103,382
Spanish.....	26	—	276	—	—	—	302
German.....	794	—	2,828	131	52	53	3,853
Latin.....	5,612	2,847	52,627	4,247	3,011	6,884	75,223
Greek.....	23	64	421	50	—	32	590
Zoology.....	—	—	10,607	543	—	—	11,150
Botany.....	3,525	24	14,187		—	202	18,481
Chemistry.....	6,297	1,883	15,640	2,099	2,722	6,978	35,619
Physics.....	—	1,163	20,937	1,969	2,980	4,217	31,266
Bookkeeping.....	—	—	117,111	1,058	889	2,860	16,518
Stenography.....	—	—	15,652	1,120	1,007	2,661	20,500
Typewriting.....	—	—	16,000	1,130	1,072	4,055	22,257
Business Law, etc.....	—	—	4,444	1,119	65	991	6,619
Art.....	4,673	1,056	17,089	1,308	1,580	7,922	33,628
Physical Culture.....	—	—	—	5,733	4,281	10,423	20,437
Agriculture.....	—	—	9,173	498	1,041	464	11,176
Manual Training.....	—	—	7,732	1,124	25	—	8,881
Household Science.....	—	—	4,592	1,302	30	—	5,924
Elementary Science.....	—	2,410	—	3,675	3,670	—	9,755
Music.....	—	—	2,060	1,622	66	3,687	7,435
Military Drill.....	—	—	—	1,496	1,993	—	3,489
Physiology.....	—	1,161	—	4,294	—	3,941	9,386
Economics.....	1,906	—	—	—	—	—	1,906
Totals, Pupils.....	12,915	3,947	91,430³	7,956	11,399	19,709	147,356

¹Canadian History.

²Approximate.

³Including continuation and high schools, collegiate institutes, and day vocational full-time pupils.

Vocational and Technical Education.—The introduction of technical and vocational courses in the high school curricula has received strong stimuli in recent years from the Technical Education Acts of 1919, 1929 and 1931, under the terms of which the Dominion Government undertook to provide subsidies to the provinces to encourage the growth of technical instruction. From the outset evening classes during the winter months have been an important part of the work of the technical schools. The number of students in institutions for technical education coming within the scope of the Technical Education Act of 1919 (9-10 Geo. V, c. 73) in the academic years ended June 30, was as follows: 1921, 56,774; 1922, 61,961; 1923, 70,300; 1924, 79,829; 1925, 88,024; 1926, 88,961; 1927, 96,682; 1928, 109,008; 1929, 121,252; 1930, 130,847; 1931, 134,763; (Table 7).

7.—Vocational Schools (Provincially-Controlled), Teachers and Pupils in Canada, by Provinces, School Year ended June 30, 1931, with Totals for 1930.

Province.	Number of Municipalities Conducting Classes.		Number of Teachers.				Number of Pupils.			
	Day.	Evening.	Day.	Evening.	Correspondence Department.	Total.	Day.	Evening.	Correspondence Department.	Total.
Prince Edward Island.....	1	—	23	—	—	23	1,140	—	—	1,140
Nova Scotia.....	1	24	15	146	27	188	3,635	2,603	2,207	8,445
New Brunswick.....	8	9	71	103	—	174	1,483	2,004	—	3,487
Quebec.....	17	49	143	488	—	631	7,153	13,654	—	20,807
Ontario (1930).....	38	58	1,087	1,486	—	2,573	29,095	44,431	—	73,526
Manitoba.....	5	2	166	134	—	300	3,555	2,732	—	6,287
Saskatchewan.....	3	3	73	64	—	137	1,379	1,908	—	3,287
Alberta.....	3	13	110	80	—	190	2,649	1,811	—	4,460
British Columbia.....	13	41	328	258	11	597	5,856	7,167	301	13,324
Totals, 1931.....	89	197	2,016	2,759	38	4,813	55,945	76,316	2,508	134,763
Totals, 1930.....	85	169	1,764	2,655	37	4,456	50,453	77,421	2,973	130,847

Teaching Staffs.—As shown in Table 1, the teaching staffs of Canadian schools consisted in 1930 of 69,820 teachers, 14,731 males and 55,089 females. The Annual Survey of Education in Canada, 1930 deals in detail with the classification of these teachers, the rates of salary paid and the teaching experience. Table 8 summarizes statistics regarding rates of salary, as far as available.

8.—Average Annual Salaries of School Teachers, by Provinces, 1929-30, or Latest Year Reported.

Province and Class of Certificate.	Male.	Female.	Province and Class of Certificate.	Male.	Female.
	\$	\$		\$	\$
Prince Edward Island, 1930—			New Brunswick, 1930—		
First class.....	825	641	First class.....	1,282	943
Second class.....	553	500	Second class.....	726	663
Third class.....	466	375	Third class.....	515	515
Nova Scotia, 1930—			Superior schools.....	1,397	
All schools.....	741		Grammar schools.....	2,022	
Quebec, 1929—			Saskatchewan, 1930—		
Religious teachers.....	562	381	Rural schools—		
Lay teachers—			First class.....	1,160	1,142
Catholic schools.....	1,638	393	Second class.....	1,116	1,031
Protestant schools.....	2,420	1,079	Third class.....	1,051	1,037
Catholic and Protestant schools.....	1,811	534	Others.....	950	800
Ontario, 1929—			All classes.....	1,128	1,058
Public schools—			Cities, towns and villages—		
Rural.....	1,195	997	First class.....	1,775	1,256
City.....	2,320	1,514	Second class.....	1,369	1,153
Town.....	1,858	1,123	Third class.....	1,200	1,275
Village.....	1,412	1,037	Others.....	—	800
Separate schools—			All classes.....	1,663	1,104
Rural.....	980	881	Collegiate Institutes and High Schools.....	2,100	1,700
City.....	904	710	Alberta, 1930—		
Town.....	917	684	First class.....	1,740	1,278
Village.....	1,000	867	Second class.....	1,222	1,114
Total public and separate.....	1,662	1,118	Third class.....	1,071	999
High schools and collegiate institutes, 1930—			Permit and pending ¹	—	840
Principals.....	3,293		Specialist.....	2,492	2,147
Assistants.....	2,693	2,175	British Columbia, 1930—		
Continuation schools, 1930—			High schools.....	2,328	
Principals.....	1,833		Cities.....	1,536	
Assistants.....	1,379	1,352	Rural municipalities.....	1,226	
			Rural and assisted.....	1,127	
			All schools.....	1,528	

¹Teachers with certificates from other provinces.

Teachers in Training.—Detailed information regarding male and female teachers in training in 1929-30 is given in the Bureau of Statistics' Annual Survey of Education in Canada, 1930. A summary of the number of teachers in training each year from 1902 to 1930 is furnished by provinces in Table 9.

9.—Provincially-Controlled Schools in Canada: Number of Teachers in Training in Normal Schools and Colleges, by Provinces, 1902-30.¹

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total.
1902	—	182	269	420	1,922	320	—	—	—	3,113
1903	—	145	224	460	1,861	319	—	—	—	3,009
1904	—	191	288	392	1,592	390	—	—	—	2,853
1905	—	148	285	416	1,685	491	—	—	—	3,025
1906	—	154	307	423	2,286	476	188	102	—	3,936
1908	—	161	334	526	1,788	410	229	140	—	3,588
1909	—	215	343	715	1,410	448	411	182	—	3,724
1910	—	260	358	787	1,510	503	447	218	—	4,083
1911	—	268	370	840	1,474	628	241	248	—	4,069
1912	—	293	376	836	1,513	—	580	278	—	3,876
1913	—	302	358	1,088	1,436	529	643	292	—	4,648
1914	—	318	357	1,270	1,563	581	886	357	—	5,332
1915	—	355	351	1,312	1,425	672	1,222	601	—	5,938
1916	—	388	372	1,357	1,819	737	911	438	—	6,022
1917	—	263	372	1,361	1,438	599	1,081	334	335	5,783
1918	—	260	287	1,339	1,676	513	621	467	365	5,528
1919	—	255	263	1,223	1,659	554	1,058	297	425	5,734
1920	220	228	263	1,502	1,959	593	723	413	404	6,305
1921	241	241	216	1,376	2,221	642	899	411	377	6,624
1922	341	356	358	1,389	2,684	790	1,462	536	685	8,601
1923	347	353	451	1,555	3,131	637	1,571	1,004	672	9,721
1924	338	682	442	1,623	3,392	695	1,621	669	639	10,101
1925	297	760	430	1,771	2,611	695	1,702	613	563	9,442
1926	299	692	376	1,854	2,786	636	1,655	774	453	9,525
1927	243	680	344	1,884	2,441	626	1,514	721	335	8,788
1928	215	600	321	1,950	2,679	614	1,458	692	375	8,904
1929	195	538	345	1,921	1,734	536	2,677	789	339	9,074
1930	219	615	311	2,075	1,838	549	1,317	811	432	8,167

¹The data for 1907 are incomparable and have been omitted. In recent years several universities have added teacher training departments, in most cases for university graduates who are trained for teaching positions in the secondary schools. These are included in the figures for 1930.

Receipts and Expenditures.—The total receipts and expenditures of the provincially-controlled schools of the different provinces are published for recent years in Table 10. Figures for the receipts in British Columbia and for expenditures in Prince Edward Island, Nova Scotia, New Brunswick and Quebec are not available.

10.—Canadian Provincially-Controlled Schools: Receipts and Expenditures, by Provinces, 1922-30.¹

Year.	P.E.I. ² —Receipts.			N.S. ² —Receipts.			
	Govt. Grants.	Local Assessment.	Total Receipts.	Govt. Grants.	Municipal Funds.	Local Assessment.	Total Receipts.
	\$	\$	\$	\$	\$	\$	\$
1922	271,103	157,766	428,869	616,389	502,804	2,527,377	3,646,570
1923	296,836	202,714	499,550	649,363	525,114	2,313,460	3,487,937
1924	279,898	169,949	449,847	638,593	523,913	2,428,832	3,591,338
1925	285,102	167,597	452,699	658,648	524,037	2,522,255	3,704,940
1926	283,022	171,649	454,671	653,734	523,738	2,393,155	3,570,627
1927	284,313	174,164	458,477	688,081	524,196	2,393,125	3,605,402
1928	294,037	179,004	473,041	752,858	523,967	2,504,390	3,781,215
1929	297,369	187,769	485,138	875,007	523,762	2,549,461	3,948,230
1930	306,390	189,669	496,059	916,856	523,876	2,529,293	3,970,025

For footnotes see p. 846.

10.—Canadian Provincially-Controlled Schools: Receipts and Expenditures, by Provinces, 1922-30¹—continued.

Year.	N.B. ² —Receipts.				Que. ² —Receipts.		
	Govt. Grants.	Municipal Funds.	Local Assessment.	Total Receipts.	Govt. Grants.	Assessment and Other Sources.	Total Receipts.
	\$	\$	\$	\$	\$	\$	\$
1922.....	381,075	195,948	2,080,023	2,657,046	2,604,409	21,367,788	23,972,197
1923.....	386,883	204,103	2,083,391	2,674,377	3,261,111	22,135,157	25,396,268
1924.....	403,454	213,836	2,102,937	2,720,227	3,776,674	24,141,064	27,917,738
1925.....	400,059	211,885	2,736,430	3,348,374	3,771,317	25,209,251	28,980,568
1926.....	425,181	213,066	2,263,082	2,901,329	3,799,545	25,016,895	28,816,440
1927.....	445,014	212,350	2,413,951	3,071,315	3,983,753	25,823,854	29,807,607
1928.....	471,759	212,616	2,337,740	3,022,115	4,152,312	26,720,566	30,872,878
1929.....	478,964	227,728	2,361,978	3,068,670	4,952,778	27,964,711	32,917,489
1930.....	495,886	212,172	2,405,890	3,113,948	—	—	—

ONTARIO—Receipts.

Year.	Elementary Schools.				Secondary Schools.		Grand Total.
	Govt. Grants.	Local Assessment.	Clergy Reserve Fund and Other Sources.	Total.	Govt. Grants.	Total.	
	\$	\$	\$	\$	\$	\$	\$
1922.....	2,976,712	22,842,180	12,805,773	38,624,665	1,063,323	11,608,199	50,232,864
1923.....	3,266,584	23,855,879	16,460,831	43,583,294	1,112,292	13,856,252	57,439,546
1924.....	3,392,552	24,113,034	12,630,296	40,135,882	1,219,260	13,558,098	53,693,980
1925.....	3,401,863	24,690,293	12,670,626	40,762,782	1,319,737	13,261,826	54,024,608
1926.....	3,345,308	24,564,710	14,223,076	42,133,094	1,429,322	13,780,410	55,913,504
1927.....	3,404,647	25,621,542	12,559,917	41,586,106	1,533,930	15,957,378	57,543,484
1928.....	3,508,408	26,159,067	13,128,485	42,795,960	1,594,070	17,811,614	60,607,574
1929.....	3,686,301	27,274,660	13,527,345	44,488,306	1,711,145	21,211,031	65,699,337

ONTARIO—Expenditures.

Year.	Elementary Schools.					Secondary Schools.	Grand Total.
	Teachers' Salaries.	Sites, etc.	Apparatus, etc.	Rents, etc.	Total.		
	\$	\$	\$	\$	\$	\$	\$
1922.....	16,680,982	6,284,139	480,483	8,465,280	31,920,884	9,495,920	41,416,804
1923.....	17,534,704	7,497,509	504,670	10,321,472	35,858,355	12,176,209	48,034,564
1924.....	18,105,568	4,408,473	518,989	9,977,034	33,010,064	12,020,621	45,030,685
1925.....	18,569,110	4,042,896	504,923	10,181,188	33,298,117	12,356,796	45,654,913
1926.....	18,604,257	4,275,726	499,088	11,394,979	34,774,050	11,721,170	46,495,220
1927.....	19,006,316	4,011,025	532,127	11,249,702	34,799,170	13,711,045	48,510,215
1928.....	19,490,562	3,821,743	537,116	11,645,816	35,495,237	16,894,437	52,389,674
1929.....	19,998,964	4,083,218	634,703	12,238,762	36,955,647	18,051,352	55,006,999

MANITOBA—Receipts.

Year.	Legislative Grants.	Municipal Taxes.	Debentures.	Promissory Notes.	Sundries.	Balance from Previous Years.	Total.
	\$	\$	\$	\$	\$	\$	\$
1922.....	1,058,292	7,991,517	1,832,134	2,613,709	242,840	563,183	14,301,675
1923.....	1,011,048	8,173,986	314,519	3,135,722	308,438	894,229	13,837,942
1924.....	1,096,010	7,468,737	812,787	1,786,188	220,704	752,990	12,137,416
1925.....	1,310,067	7,283,360	677,775	1,335,695	185,109	833,930	11,625,936
1926.....	1,091,151	7,302,044	402,504	1,010,958	190,002	955,802	10,952,461
1927.....	1,110,575	7,365,798	369,721	1,090,556	275,718	960,332	11,172,700
1928.....	1,191,924	7,555,561	568,937	854,367	230,025	918,915	11,319,729
1929.....	1,208,809	7,611,029	408,897	877,474	186,088	911,043	11,203,340
1930.....	1,285,898	7,821,988	446,115	1,770,920	219,540	814,368	12,358,829

¹For other years back to 1901, see 1921 Year Book, pp. 148-153. The latest figures for Quebec, Ontario, Saskatchewan and Alberta are for 1929.

²Figures of expenditures are not available for Prince Edward Island, Nova Scotia, New Brunswick and Quebec.

10.—Canadian Provincially-Controlled Schools: Receipts and Expenditures, by Provinces, 1922-30—continued.

MANITOBA—Expenditures.

Year.	Teachers' Salaries.	Building, etc.	Fuel, etc.	Repairs and Caretaking.	Secretary-Treasurers' Salaries.
	\$	\$	\$	\$	\$
1922.....	5,016,903	1,947,527	512,016	746,642	140,414
1923.....	5,081,809	1,276,288	433,882	659,134	146,797
1924.....	4,849,712	726,585	410,680	624,455	131,929
1925.....	4,838,723	269,893	318,804	769,435	150,783
1926.....	4,914,087	419,047	242,542	782,226	164,403
1927.....	4,984,111	718,348	396,217	658,723	223,287
1928.....	5,063,926	597,183	415,257	684,528	203,226
1929.....	5,167,687	683,747	385,406	693,074	171,882
1930.....	5,329,498	1,222,272	425,633	743,418	167,692

Year.	Principal of Debentures.	Interest on Debentures.	Promissory Notes.	Other Expenditures.	Total.
	\$	\$	\$	\$	\$
1922.....	485,365	610,418	2,666,484	1,439,055	13,564,824
1923.....	596,878	625,196	2,789,178	1,390,092	12,999,254
1924.....	378,176	678,079	2,364,476	1,120,003	11,284,095
1925.....	585,796	737,070	2,123,882	876,942	10,671,328
1926.....	605,920	681,643	1,188,854	995,238	9,993,960
1927.....	613,671	683,883	1,067,836	903,400	10,249,476
1928.....	633,097	683,714	1,178,688	925,077	10,384,696
1929.....	639,916	684,765	982,903	996,925	10,406,305
1930.....	651,551	694,929	1,301,332	1,091,074	11,627,399

SASKATCHEWAN—Receipts.

Year.	Elementary Schools.					Secondary Schools.		Grand Total.
	Govt. Grants.	Local Assessments.	Debentures.	Other Sources.	Total.	Govt. Grants.	Total.	
	\$	\$	\$	\$	\$	\$	\$	\$
1922.....	1,779,228	10,090,401	631,219	2,026,838	14,527,686	191,912	601,130	15,128,816
1923.....	1,620,803	10,101,291	810,858	1,922,923	14,455,875	213,233	639,704	15,095,579
1924.....	1,850,403	10,011,774	551,834	1,820,432	14,234,443	224,257	657,333	14,891,776
1925.....	1,913,643	10,063,559	720,272	1,927,253	14,624,727	216,102	664,181	15,288,908
1926.....	2,033,761	10,229,432	883,695	1,809,126	14,956,014	231,720	739,143	15,695,157
1927.....	2,141,290	10,415,005	1,800,862	2,133,815	15,990,972	199,246	760,776	16,751,748
1928.....	2,193,889	10,874,672	1,217,825	1,981,025	16,267,411	208,732	778,302	17,045,713
1929.....	2,534,024	11,010,661	1,284,651	2,208,983	17,038,319	292,676	981,183	18,019,502

SASKATCHEWAN—Expenditures.

Year.	Elementary Schools.						Secondary Schools.		Grand Total.
	Teachers' Salaries.	Debentures.	Notes (renewals and interest).	School Bldgs. and Grounds.	Other Expenditure.	Total Expenditure.	Teachers' Salaries.	Total. ²	
	\$	\$	\$	\$	\$	\$	\$	\$	\$
1922.....	6,812,680	1,379,574	2,026,119	1,153,081	2,840,545	14,211,999	410,437	707,804	14,919,803
1923.....	6,737,772	1,518,266	1,767,226	1,362,975	2,960,032	14,346,271	429,200	806,365	15,152,636
1924.....	6,830,764	1,471,020	1,611,562	1,202,530	2,946,013	14,061,889	449,096	699,279	14,761,168
1925.....	6,828,428	1,481,450	1,577,795	1,320,091	3,083,072	14,290,836	459,630	690,247	14,981,083
1926.....	6,957,331	1,428,945	1,571,714	1,629,230	3,202,636	14,789,856	480,763	710,521	15,500,377
1927.....	7,184,460	1,459,629	1,815,173	2,116,041	3,342,366	15,917,669	508,772	843,179	16,760,848
1928.....	7,484,752	1,526,298	1,670,769	2,231,260	3,501,765	16,414,844	539,105	797,373	17,212,217
1929.....	7,809,073	1,590,757	1,788,318	2,169,375	3,595,149	16,952,672	593,186	1,276,134	18,228,806

¹For other years back to 1901, see 1921 Year Book, pp. 148-153. The latest figures for Quebec, Ontario, Saskatchewan and Alberta are for 1929.

²The items for 1922-29 do not include promissory notes.

10.—Canadian Provincially-Controlled Schools: Receipts and Expenditure, by Provinces, 1922-30¹—concluded.

ALBERTA—Receipts.

Year.	Govt. Grants.	Local Assessments.	Debentures.	Notes.	Other Sources.	Total.
	\$	\$	\$	\$	\$	\$
1922.....	1,241,518	7,475,582	1,262,120	2,232,254	216,998	12,428,472
1923.....	1,117,023	8,282,650	449,376	1,928,153	260,192	12,037,394
1924.....	1,054,733	8,327,327	493,989	1,267,787	345,395	11,489,231
1925.....	1,084,879	8,197,098	357,103	1,130,357	364,954	11,134,391
1926.....	1,137,638	8,241,715	573,401	1,058,121	320,363	11,331,238
1927.....	1,218,573	8,901,979	503,130	967,530	333,931	11,925,143
1928.....	1,321,158	9,279,494	1,097,006	1,241,062	391,368	13,330,688
1929.....	1,355,963	9,419,440	1,543,704	1,364,173	459,582	14,142,862

ALBERTA—Expenditures.

Year.	Teachers' Salaries.	Officials' Salaries.	Debentures.	Notes.	Buildings.	Other Expenditures.	Total Expenditures.
	\$	\$	\$	\$	\$	\$	\$
1922.....	5,428,826	283,876	1,183,983	2,457,356	999,787	2,004,543	12,358,371
1923.....	5,411,487	281,680	1,213,110	2,190,676	830,895	1,935,719	11,863,567
1924.....	5,443,248	305,914	1,273,607	1,727,405	703,495	2,000,837	11,458,506
1925.....	5,477,156	276,519	1,225,741	1,269,913	630,377	1,947,084	10,826,790
1926.....	5,640,219	332,467	1,226,350	1,173,582	839,841	2,067,654	11,280,113
1927.....	5,899,839	332,115	1,211,234	1,278,206	980,704	2,005,890	11,707,988
1928.....	6,243,085	357,525	1,228,138	1,170,050	1,806,269	2,231,799	13,036,866
1929.....	6,586,974	350,427	1,287,395	1,575,483	2,097,582	2,498,688	14,396,549

BRITISH COLUMBIA²—Expenditures.

Year.	Local Assessments.				Provincial Government.	Grand Total.
	Cities.	Rural Municipalities.	Other Rural.	Total.		
	\$	\$	\$	\$	\$	\$
1922.....	—	—	—	4,691,840	3,141,738 ³	7,833,578 ⁴
1923.....	2,727,755	1,371,147	354,421	4,453,323	3,176,686 ³	7,630,009 ⁴
1924.....	3,053,161	1,492,501	477,639	5,023,301	3,173,395 ³	8,196,696 ⁴
1925.....	2,959,649	1,694,553	451,216	5,105,418	3,223,671 ³	8,329,089 ⁴
1926.....	3,015,092	1,600,452	479,876	5,095,420	3,216,209 ³	8,311,629 ⁴
1927.....	3,269,522	1,992,573	507,692	5,769,787	3,402,941 ³	9,172,728 ⁴
1928.....	3,368,253	1,843,283	517,040	5,728,576	3,532,519 ³	9,261,095 ⁴
1929.....	5,806,030	1,025,482	552,563	7,384,075	3,765,921 ³	11,149,996 ⁴
1930.....	4,549,067	1,120,718	595,154	6,264,939	3,743,317 ³	10,008,256 ⁴

¹For other years back to 1901, see 1921 Year Book, pp. 148-153. The latest figures for Quebec, Ontario, Saskatchewan and Alberta are for 1929.

²Figures for British Columbia do not include receipts.

³Including grants to provincial university as follows: 1922, \$445,000; 1923, \$446,250; 1924, \$458,125; 1925, \$466,000; 1926, \$516,242; 1927, \$531,875; 1928, \$545,917; 1929, \$564,425; 1930, \$606,825.

Subsection 2.—Higher Education.

In previous years statistics of "universities" and of "colleges" have been published in two separate sets of tables. The present edition of the Year Book, provides data for both universities and colleges in a single series of tables. The tables are intended to include all institutions in the Dominion offering instruction in courses that are the equivalent of at least two years in advance of matriculation. The affiliated colleges of each university are shown along with it, except where they are situated in another province. In the tables following, the name of each institution is given in the language (French or English) used therein as the main language of instruction. The first table shows the control of each college or university, and this in conjunction with the second table which records the studies offered in each institution, conveys a comparatively complete picture of the higher educational field in Canada.

Students of University Grade.—The aggregate number of students reported in attendance was 73,515. Of these, 37,400 were of university grade (*i.e.*, following courses for which matriculation was prerequisite) and all but 4,319, or 33,081, were in attendance at the regular session. They were enrolled in 152 different colleges or universities. Of the 33,081 attending the full session 23,383 men and 8,494 women were undergraduates, while 941 men and 263 women were graduate students, *i.e.*, working toward a higher degree in a subject in which they already held a bachelor's degree. Many of the larger numbers classed as undergraduates actually held degrees, but not in the subject or faculty in which they were studying during the session under consideration.

More than half of all students, or 17,227, are in "arts and science" or what are commonly termed "academic" courses as distinguished from "professional" courses. Of these 34 p.c. are in first year, 28 p.c. in second year, 19 p.c. in third year, 18 p.c. in fourth year—the first two years being disproportionately high on account of one or two years of "arts" being prerequisite to many of the professional courses. Next to arts and science come engineering and applied science with 3,115 students; medicine, 2,846; theology, 1,704; agriculture, 1,017; commerce and accounting, 970; law, 874; household science, 807; education, 753; public health and nursing, 640; pharmacy, 601; dentistry, 410; music, 331; forestry, 146; veterinary science, 124; architecture, 119; etc.

As shown in Table 11, there were 3,521 bachelors' degrees granted to men and 263 to women, 494 diplomas to men and 712 to women. Some of the latter represent completion of courses similar to those for bachelor degrees. Adding such to the bachelor degrees, and making allowance for duplication where the same person may be receiving a second bachelor degree (in a different branch of study) it may be concluded that there are produced annually about 3,500 new male and 1,300 new female university graduates with a bachelor's degree or higher—about 12 p.c. of the men and 7 p.c. of the women being destined to continue their studies toward postgraduate degrees in Canada, while some in addition will take advanced work in the United States and overseas. The graduate degrees granted included 397 masters' degrees or licences to men and 86 to women, the term "licentiate" being used by the universities of Laval, Montreal and Ottawa in place of the term "master". Those completing the doctorate were 57 men and 7 women, while honorary doctors' degrees were conferred on 108 men and one woman.

11.—Universities and Colleges of Canada: Summary of Degrees and Diplomas Granted, 1929-30.

University or College.	Diplomas and Certificates.		Bachelor. ³		Master and Licence. ⁴		Doctor. ^{3,5}		Totals.		
	Men.	Wom-en.	Men.	Wom-en.	Men.	Wom-en.	Men.	Wom-en.	Men.	Wom-en.	Total.
Dalhousie—King's ¹	17	7	113	52	7	10	2	—	139	69	208
Acadia.....	26	15	51	24	5	8	10	—	92	47	139
St. Francis Xavier.....	—	—	27	2	—	3	2	—	29	5	34
New Brunswick.....	—	—	56	13	—	—	—	—	56	13	69
Mount Allison.....	9	8	35	24	—	—	5	—	49	32	81
St. Joseph's.....	—	—	18	—	7	—	—	—	25	—	25
McGill.....	6	67	321	85	40	16	26	3	393	171	564
Bishop's.....	5	10	20	11	10	—	4	—	39	21	60
Laval.....	71	181	346	1	37	—	1	—	455	182	637
Montreal.....	74	10	451	18	74	—	6	—	605	28	633
Toronto.....	7	113	821	329	81	27	26	5	935	474	1,409
Victoria ²	14	—	5	—	—	—	4	—	23	—	23
Trinity ²	—	—	2	—	6	—	3	—	11	—	11
Western.....	—	7	103	70	9	2	3	—	115	79	194
Queen's.....	—	—	211	112	16	5	16	—	243	117	360
Ottawa.....	—	3	63	9	41	1	12	—	116	13	129
McMaster.....	4	3	53	28	5	1	4	—	66	32	98
Manitoba.....	41	11	248	182	4	5	13	—	306	198	504
Saskatchewan.....	37	20	129	91	16	4	—	—	182	115	297
Alberta.....	8	15	133	79	11	2	5	—	157	96	253
British Columbia.....	18	40	138	118	12	2	2	—	170	160	330
Other Institutions.....	145	202	177	15	16	—	21	—	359	217	576
Totals.....	482	712	3,521	1,263	397	86	165	8	4,565	2,069	6,634

¹ All degrees except those in theology granted by Dalhousie.

² All degrees except those in theology entered under Toronto.

³ Medical, dental and veterinary doctors included in "bachelor" column.

⁴ The licence in the French-speaking universities is the next degree in advance of bachelor, as the master's degree is in the English-speaking.

⁵ 109 of the doctors' degrees were honorary.

Students not of University Grade.—The 37,400 students of post-matriculation standard represent little more than half of the total enrolment in universities and colleges. Many of the arts colleges, especially the classical colleges of Quebec offer preparatory courses in which instruction is given in the high school grades, or even elementary grades. These accounted for 19,783 students, practically all of whom were in regular attendance at the full session.

The remaining 16,332 of the enrolment, 7,627 men and 8,705 women, were not following high school courses, but could not be classed as university-grade students as they had not necessarily matriculated. A minority of them, 903 men and 3,884 women, attended the full session, generally studying music, household science or agriculture. The remainder were the students of summer courses in teaching methods, series of evening extension lectures, correspondence and other extramural courses, agricultural and other short courses.

Apart from the reported enrolment many thousands of people were reached by extension lectures that were not grouped in series and reported as courses, and still larger numbers reached by university radio broadcasts, travelling libraries, agricultural assistance and various other forms of extension service. These activities were reviewed in the Annual Survey of Education in Canada, 1929.

University Trends of 1931.—In 1931 there was an unusual increase in enrolment over the preceding year due, no doubt, to employment conditions. Similar increases were experienced by the high schools. The larger branches of study were affected as follows:—

Faculty.	1930.	1931.
Arts, Pure Science.....	16,637	18,187
Engineering and Applied Science.....	3,380	3,827
Medicine and Dentistry.....	3,230	3,353
Theology.....	2,083	2,192
Agriculture.....	956	1,277
Household Science.....	807	995
Totals, full time undergraduates.....	30,359	32,783

Current expenses of the year amounted to \$20,079,000, while a further \$6,134,000 was spent for new buildings, etc. on capital account. The largest sum in the latter category was that of the University of Montreal for the erection of its new central building. Capital expenditures in excess of half a million dollars were also made by each of Manitoba, Queen's, Toronto and Victoria universities. The heavy expenditures of McMaster in establishing itself at Hamilton belong to the preceding year.

The revenue from investments was \$2,581,000, from government grants \$5,896,000, from tuition fees \$3,656,000, from other sources \$7,062,000, including gifts and fees for board and lodging where they were given. Government grants fell from \$7,413,000 in the preceding year, and have been further reduced in 1932. Revenue from investments was down slightly, that from fees up considerably, as follows:—

Source.	1930.	1931.
Investments.....	\$ 2,667,250	\$ 2,581,423
Government Grants.....	7,413,270	5,895,794
Tuition Fees.....	3,261,754	3,655,935
Other Sources.....	6,947,962	7,061,873
Totals, Receipts.....	20,300,236	19,195,025

From the standpoint of financial support there are at least three distinct classes of institution. First there are those that rely on grants from provincial treasuries for their upkeep. Six of the provinces have such universities and the remaining three have colleges in this class. Secondly, there are the institutions such as Dalhousie, McGill and McMaster universities, to cite a few, that rely for their support on endowments, and do not receive provincial grants. Thirdly, there are colleges either operated or controlled by religious denominations, which do not receive provincial assistance, and which may not have a financial endowment sufficient to carry them. These may have another type of endowment,—men, like the University of Ottawa and other Roman Catholic colleges conducted by religious orders. Since salaries are commonly only nominal in these schools, expenses are comparatively low per pupil accommodated. The other section of the third group—mainly Protestant theological and arts colleges—commonly rely on church contributions where their financial endowments are inadequate.

12.—Universities and Colleges of Canada:

No.	University or College, and Control. ²	A. Students of University Grade.		
		Men.	Women.	Total.
1	Prince of Wales (Provincial).....	18	12	30
2	St. Dunstan's (Roman Catholic, Affiliated with Laval).....	77	—	77
3	Totals, Prince Edward Island.....	95	12	107
4	Acadia (Baptist).....	251	217	468
5	Dalhousie (Undenominational).....	655	204	859
6	King's (Associated with Dalhousie) Anglican.....	55	17	72
7	St. Francis Xavier (Roman Catholic).....	202	110	312
8	St. Mary's (Roman Catholic).....	69	—	69
9	Ste. Anne (Roman Catholic).....	25	—	25
10	Mt. St. Vincent (Roman Catholic).....	—	261	261
11	Holy Heart (Roman Catholic).....	62	—	62
12	Pine Hill (United Church).....	32	—	32
13	Nova Scotia Agricultural (Provincial).....	37	2	39
14	Nova Scotia Technical (Provincial).....	55	—	55
15	Maritime Pharmacy (Affiliated with Dalhousie).....	12	2	14
16	Totals, Nova Scotia³.....	1,391	774	2,165
17	Sacré Cœur (Roman Catholic).....	48	—	48
18	St. Joseph's (Roman Catholic).....	82	—	82
19	Mount Allison (United Church).....	375	266	641
20	New Brunswick University (Provincial).....	275	93	368
21	Totals, New Brunswick.....	780	359	1,139
22	Bishop's (Anglican).....	130	35	165
23	McGill (Undenominational).....	2,044	869	2,913
24	Macdonald Agricultural.....	72	13	85
25	Presbyterian Theological.....	39	—	39
26	Diocesan (Anglican).....	25	—	25
27	United Theological.....	104	—	104
28	Université de Montréal ¹ , (Roman Catholic).....	(3,714)	(1,780)	(5,494)
29	Montreal, facultés de l'université.....	1,108	417	1,525
30	Ecole Polytechnique.....	192	—	192
31	Ecole des Hautes Etudes Commerciales.....	177	1	178
32	Institut agricole d'Oka.....	137	—	137
33	Ecole de médecine vétérinaire.....	12	—	12
34	Institut pédagogique.....	—	45	45
35	Collège Loyola.....	107	—	107
36	“ de l'Assomption.....	109	—	109
37	“ Bourget.....	76	—	76
38	“ Brébeuf.....	123	—	123
39	“ de Joliette.....	141	—	141
40	“ de Montréal.....	232	—	232
41	“ de Sherbrooke.....	119	—	119
42	“ de St. Hyacinthe.....	158	—	158
43	“ de St. Jean.....	67	—	67
44	“ St. Laurent.....	116	—	116
45	“ Ste. Croix.....	15	—	15
46	“ Ste. Marie.....	230	—	230
47	“ Ste. Thérèse.....	98	—	98
48	“ de Valleyfield.....	54	—	54
49	Marguerite Bourgeoys.....	—	161	161
50	Ecoles de musique (annex).....	—	—	—
51	“ d'hygiène (annex).....	45	13	58
52	“ d'ens. ménager (annex).....	—	—	—
53	Couvents annexés.....	—	—	—
54	Université Laval ¹ , (Roman Catholic).....	(2,402)	(349)	(2,751)
55	Laval (Facultés de l'Université).....	731	16	747
56	Grands Séminaires.....	149	—	149
57	Académie Commerciale.....	164	—	164
58	Arthabaska (Frères Sacré Cœur).....	29	—	29
59	Ste. Anne de la Pocatière.....	92	—	92
60	Collège de Québec.....	302	—	302
61	“ de Nicolet.....	114	—	114
62	“ de Ste. Anne.....	158	—	158
63	“ des Trois-Rivières.....	118	—	118
64	“ de Rimouski.....	119	—	119
65	“ de Chicoutimi.....	117	—	117
66	“ de Lévis.....	99	—	99
67	“ de Mont Laurier.....	30	—	30
68	“ St. Alexandre.....	44	—	44
69	“ de St. Victor.....	56	—	56
70	“ de Gaspé.....	—	—	—
71	Les Dames de Jésus-Marie, Sillery.....	—	50	50
72	Ecoles des gardes-malades.....	—	283	283
73	Couvents affiliés.....	—	—	—
74	Institutions classiques non-affiliées (Roman Catholic).....	381	—	381
75	Institutions supérieures non affiliées (Roman Catholic).....	459	—	459
76	Totals, Quebec³.....	8,791	1,825	10,616

For footnotes see end of table, pp. 854-5.

Enrolment by Grade of Work, 1929-30.

B. Pre-matriculation Students.			C. All Students not in A. or B.			Totals of Enrolment (Excluding Duplicates).			No.
Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.	
109	197	306	-	-	-	127	209	336	1
80	-	80	-	-	-	157	-	157	2
189	197	386	-	-	-	284	209	493	3
14	15	29	10	30	40	275	262	537	4
-	-	-	20	46	66	675	250	925	5
5	1	6	-	-	-	60	18	78	6
32	2	34	50	-	50	284	112	396	7
160	-	160	-	-	-	229	-	229	8
98	-	98	10	-	10	133	-	133	9
-	-	-	-	-	-	-	261	261	10
-	-	-	-	-	-	62	-	62	11
-	-	-	-	-	-	32	-	32	12
-	-	-	37	20	57	74	22	96	13
260	543	803	-	-	-	315	543	858	14
-	-	-	21	11	32	33	13	46	15
564	560	1,124	148	107	255	2,103	1,441	3,544	16
233	-	233	-	-	-	281	-	281	17
286	-	286	-	-	-	368	-	368	18
19	31	50	-	-	-	394	297	691	19
-	-	-	-	2	2	275	95	370	20
538	31	569	-	2	2	1,318	392	1,710	21
-	-	-	-	-	-	130	35	165	22
-	-	-	672	207	879	2,716	1,076	3,792	23
-	-	-	324	249	573	396	262	658	24
9	-	9	-	-	-	48	-	48	25
15	-	15	7	-	7	47	-	47	26
18	-	18	-	-	-	122	-	122	27
(2,995)	(1,618)	(4,613)	(1,001)	(1,401)	(2,402)	(7,520)	(4,799)	(12,309)	28
-	-	-	-	-	-	1,108	417	1,525	29
-	-	-	-	-	-	192	-	192	30
-	-	-	677	57	734	854	58	912	31
37	-	37	153	-	153	327	-	327	32
-	-	-	-	-	-	12	-	12	33
-	-	-	-	1,362	1,362	-	1,407	1,407	34
307	-	307	-	-	-	414	-	414	35
264	-	264	-	-	-	373	-	373	36
381	-	381	-	-	-	457	-	457	37
441	-	441	-	-	-	564	-	564	38
268	-	268	-	-	-	409	-	409	39
192	-	192	-	-	-	424	-	424	40
391	-	391	-	-	-	510	-	510	41
353	-	353	-	-	-	511	-	511	42
242	-	242	-	-	-	309	-	309	43
484	-	484	-	-	-	600	-	600	44
145	-	145	-	-	-	180	-	180	45
253	-	253	-	-	-	483	-	483	46
226	-	226	-	-	-	324	-	324	47
225	-	225	-	-	-	279	-	279	48
-	-	-	-	556	556	-	717	717	49
-	-	-	221	536	757	221	536	757	50
-	-	-	-	-	-	45	13	58	51
-	-	-	-	377	377	-	377	377	52
-	1,618	1,618	-	-	-	-	1,618	1,618	53
(3,891)	(3,854)	(7,745)	(9)	(619)	(628)	(6,302)	(4,822)	(11,124)	54
-	-	-	9	619	628	740	635	1,375	55
-	-	-	-	-	-	149	-	149	56
-	-	-	-	-	-	164	-	164	57
-	-	-	-	-	-	29	-	29	58
-	-	-	275	-	275	367	-	367	59
723	-	723	-	-	-	1,025	-	1,025	60
212	-	212	-	-	-	326	-	326	61
469	-	469	-	-	-	627	-	627	62
372	-	372	-	-	-	491	-	491	63
236	-	236	-	-	-	345	-	345	64
403	-	403	-	-	-	520	-	520	65
676	-	676	-	-	-	775	-	775	66
110	-	110	-	-	-	140	-	140	67
152	-	152	-	-	-	196	-	196	68
119	-	119	-	-	-	175	-	175	69
70	-	70	-	-	-	70	-	70	70
-	-	-	-	-	-	-	50	50	71
-	-	-	-	-	-	-	283	283	72
-	3,854	3,854	-	-	-	-	3,854	3,854	73
445	-	445	-	-	-	826	-	826	74
-	-	-	-	-	-	459	-	459	75
8,238	5,472	13,710	2,338	3,963	6,301	19,367	11,260	30,627	76

12.—Universities and Colleges of Canada:

No.	University or College, and Control. ²	A. Students of University Grade.		
		Men.	Women.	Total.
1	<i>Université d'Ottawa (Roman Catholic, O.M.I.)</i>	442	260	702
2	Sacré Cœur, Sudbury (Roman Catholic, Jesuits).....	45	—	45
3	<i>University of Western Ontario (Undenominational)</i>	759	448	1,207
4	University of Western Ontario Extension.....	15	16	31
5	Assumption (Roman Catholic).....	125	—	125
6	Alma (United Church).....	—	—	—
7	Huron (Anglican).....	26	—	26
8	Ursuline (Roman Catholic).....	30	39	69
9	Waterloo (Lutheran).....	23	6	29
10	Evangelical Lutheran Seminary.....	11	—	11
11	Queen's University (Undenominational).....	2,101	1,064	3,165
12	McMaster University (Baptist).....	296	138	434
13	Royal Military College (Dominion).....	200	—	200
14	Osgoode Hall (Law Society).....	311	11	322
15	Margaret Eaton (P.T.).....	—	55	55
16	St. Augustine's Seminary (Roman Catholic).....	190	—	190
17	Mt. Carmel College (Roman Catholic Carmelite).....	53	—	53
18	Students des Rédemptoristes (Roman Catholic).....	29	—	29
19	St. Jerome's College (Roman Catholic).....	40	—	40
20	<i>University of Toronto (Provincial)</i>	4,277	2,427	6,704
21	University of Toronto Extension.....	75	93	168
22	Victoria College (United Church).....	407	467	874
23	Emmanuel College (United Church).....	209	34	243
24	Trinity College (Anglican).....	195	142	337
25	St. Michael's (Roman Catholic).....	273	161	434
26	Knox (Presbyterian).....	24	—	24
27	Wycliffe, 1929 (Anglican).....	75	—	75
28	Pharmacy (Pharm. Society).....	244	11	255
29	Ontario Agricultural (Provincial).....	307	136	443
30	Ontario Veterinary (Provincial).....	133	—	133
31	Totals, Ontario³	9,595	4,639	14,234
32	Brandon College (Baptist, Affiliated with McMaster).....	90	76	166
33	<i>University of Manitoba (Provincial)</i>	1,921	1,093	3,014
34	Manitoba Law School (Law Society and University).....	57	4	61
35	Manitoba College (United Church).....	29	6	35
36	Wesley College, 1929 (United Church).....	142	165	307
37	St. John's College (Anglican).....	60	—	60
38	Collège St. Boniface (Roman Catholic).....	40	—	40
39	Totals, Manitoba³	2,092	1,239	3,322
40	<i>University of Saskatchewan (Provincial)</i>	1,245	652	1,897
41	Emmanuel (Anglican).....	50	—	50
42	St. Andrew's, 1929 (United Church).....	38	1	39
43	Lutheran.....	10	2	12
44	St. Chad's (Anglican).....	19	—	19
45	Regina (United Church).....	49	62	111
46	Campion (Roman Catholic).....	61	—	61
47	Outlook (Lutheran).....	21	16	37
48	St. Peter's (Roman Catholic).....	20	—	20
49	Totals, Saskatchewan³	1,389	697	2,086
50	Concordia College (Lutheran).....	12	—	12
51	Collège des Jésuites (Affiliated with Laval).....	15	—	15
52	Juniorat St. Jean (Affiliated with Ottawa).....	4	—	4
53	<i>University of Alberta (Provincial)</i>	941	476	1,417
54	St. Stephen's (United Church).....	35	—	35
55	Totals, Alberta¹	985	476	1,461
56	Western Pharmacy.....	43	1	44
57	<i>University of British Columbia (Provincial)</i>	1,124	780	1,904
58	Victoria (Provincial).....	146	133	279
59	Anglican, 1929.....	30	1	31
60	Union (United Church).....	19	1	20
61	Totals, British Columbia³	1,355	915	2,270
62	Totals, Canada	26,473	10,927	37,400

¹The figures in brackets represent the enrolment reported by the university. Immediately below these is shown the enrolment in each of the various colleges or schools of which the university is comprised.

Enrolment by Grade of Work, 1929-30—concluded.

B. Pre-matriculation Students.			C. All Students not in A. or B.			Totals of Enrolment (Excluding Duplicates).			No.
Men.	Women.	Total.	Men.	Women.	Total.	Men.	Women.	Total.	
759	127	886	162	262	424	1,363	649	2,012	1
119	—	119	—	—	—	164	—	164	2
—	—	—	—	—	—	759	448	1,207	3
—	—	—	126	248	374	141	264	405	4
375	—	375	—	—	—	500	—	500	5
—	122	122	—	170	170	—	292	292	6
—	—	—	—	—	—	26	—	26	7
—	7	7	—	—	—	30	46	76	8
31	2	33	—	—	—	54	8	62	9
—	—	—	—	—	—	11	—	11	10
—	—	—	655	—	655	2,756	1,064	3,820	11
3	—	3	—	—	—	299	138	437	12
—	—	—	—	—	—	200	—	200	13
—	—	—	—	—	—	311	11	322	14
—	—	—	3	262	265	3	317	320	15
—	—	—	—	—	—	190	—	190	16
92	—	92	—	—	—	145	—	145	17
—	—	—	—	—	—	29	—	29	18
109	—	109	25	—	25	174	—	174	19
—	—	—	105	369	474	4,382	2,796	7,178	20
129	244	373	1,349	1,536	2,885	1,553	1,873	3,426	21
—	—	—	—	—	—	407	467	874	22
—	—	—	—	—	—	209	34	243	23
—	—	—	—	—	—	195	142	337	24
460	—	460	—	—	—	733	161	894	25
—	—	—	—	—	—	24	—	24	26
6	—	6	—	—	—	81	—	81	27
—	—	—	—	—	—	244	11	255	28
—	—	—	865	315	1,180	1,172	451	1,623	29
—	—	—	68	4	72	201	4	205	30
2,083	502	2,585	2,358	3,166	6,524	15,036	8,207	23,343	31
17	8	25	15	91	106	122	175	297	32
42	58	100	555	219	774	2,518	1,370	3,888	33
—	—	—	—	—	—	57	4	61	34
—	—	—	—	—	—	29	6	35	35
87	55	142	—	—	—	229	220	449	36
233	—	233	—	—	—	293	—	293	37
218	—	218	2	—	2	260	—	260	38
597	121	718	572	310	882	3,261	1,661	4,922	39
—	—	—	571	345	916	1,816	997	2,813	40
—	—	—	—	—	—	50	—	50	41
—	—	—	—	—	—	38	1	39	42
17	8	25	5	1	6	32	11	43	43
—	—	—	—	—	—	19	—	19	44
41	52	93	164	490	654	254	604	858	45
170	—	170	—	—	—	231	—	231	46
29	28	57	5	15	20	55	59	114	47
59	—	59	—	—	—	79	—	79	48
316	88	404	745	851	1,596	2,450	1,636	4,086	49
41	9	50	—	—	—	53	9	62	50
129	—	129	—	—	—	144	—	144	51
29	—	29	—	—	—	33	—	33	52
40	37	77	52	14	66	1,093	527	1,560	53
—	—	—	—	—	—	35	—	35	54
239	46	285	52	14	66	1,276	536	1,812	55
—	—	—	—	—	—	43	1	44	56
—	—	—	414	292	706	1,538	1,072	2,610	57
—	—	—	—	—	—	146	133	279	58
—	—	—	—	—	—	30	1	31	59
2	—	2	—	—	—	21	1	22	60
2	—	2	414	292	706	1,771	1,297	2,978	61
12,766	7,017	19,783	7,627	8,705	16,332	46,866	26,649	73,515	62

²Each institution is given in the language (English or French) used in it as the main language of instruction. The name of each university with numerous affiliated or federated colleges is printed in italics, and immediately following it (except in the case of Dalhousie) and indented are listed its affiliated institutions in the same province.

³Provincial totals exclude duplicates between institutions.

13.—Universities and Colleges of Canada: Full Time Students

No.	University or College.	Undergraduate.									
		Pre-matriculation.	Arts.	Pure Science.	Letters.	Philosophy.	Agriculture.	Architecture.	Commerce.	Dentistry.	Engineering and Applied Science.
1	Prince of Wales.....	306	30	-	-	-	-	-	-	-	-
2	St. Dunstan's.....	80	77	-	-	-	-	-	-	-	-
3	Acadia.....	29	260	-	-	-	-	-	-	-	-
4	Dalhousie.....	374	122	-	-	-	-	-	47	30	-
5	King's.....	6	64	4	-	-	-	-	-	-	-
6	St. Francis Xavier.....	34	170	37	-	-	-	-	8	-	-
7	St. Mary's.....	160	45	-	-	-	-	-	-	-	-
8	Ste. Anne.....	98	13	-	-	-	-	-	-	-	-
9	St. Vincent.....	-	68	-	-	-	-	-	20	-	-
10	Holy Heart.....	-	-	-	-	5	-	-	-	-	-
11	Pine Hill.....	-	-	-	-	-	-	-	-	-	-
12	Nova Scotia Agricultural.....	-	-	-	-	-	39	-	-	-	-
13	Nova Scotia Technical.....	-	-	-	-	-	-	-	-	-	-
14	Maritime Pharmacy.....	-	-	-	-	-	-	-	-	-	-
15	Sacré Cœur.....	233	48	-	-	-	-	-	-	-	-
16	St. Joseph's.....	286	80	-	-	-	-	-	-	-	-
17	Mt. Allison.....	-	199	53	-	-	-	-	11	-	-
18	New Brunswick.....	-	139	27	-	-	-	-	-	-	-
19	Bishop's.....	-	110	-	-	-	-	-	-	-	-
20	McGill.....	-	695	248	-	-	71	38	248	38	302
21	Macdonald.....	-	-	-	-	-	73	-	-	-	-
22	Presbyterian.....	9	17	-	-	-	-	-	-	-	-
23	Diocesan.....	15	19	-	-	-	-	-	-	-	-
24	United.....	18	29	-	-	-	-	-	-	-	-
25	Montréal (Facultés de l'université).....	-	-	98	-	-	-	-	-	59	-
26	Ecole Polytechnique.....	-	-	-	-	-	-	-	-	-	192
27	Ecole des H. Etudes Commerciales.....	-	-	-	-	-	-	178	-	-	-
28	Oka.....	37	-	-	-	-	79	-	-	-	-
29	Ecole de médecine vétérinaire.....	-	-	-	-	-	-	-	-	-	-
30	Institut pédagogique.....	-	-	-	-	-	-	-	-	45	-
31	14 collèges classiques.....	4,172	1,645	-	-	-	-	-	-	-	-
32	Marguerite Bourgeoys.....	-	121	-	-	-	-	-	-	-	-
33	Ecoles annexées.....	1,618	-	-	-	-	-	-	-	-	-
34	Laval (Facultés de l'université).....	-	14	-	-	-	-	-	-	-	-
35	7 grands séminaires.....	-	-	-	-	-	-	-	-	-	-
36	Académie Commerciale.....	-	-	-	-	-	-	164	-	-	-
37	Arthabaska.....	-	-	-	-	-	-	-	-	29	-
38	Ste. Anne de la Pocatière.....	-	-	-	-	-	91	-	-	-	-
39	11 collèges classiques.....	4,690	1,148	-	-	-	-	-	-	-	-
40	Sillery.....	-	50	-	-	-	-	-	-	-	-
41	Ecoles de gardes-malades.....	-	-	-	-	-	-	-	-	-	-
42	Couvents.....	3,854	-	-	-	-	-	-	-	-	-
43	Institutions classiques non-affiliées.....	445	381	-	-	-	-	-	-	-	-
44	Institutions supérieures non-affiliées.....	-	34	-	-	260	-	-	-	-	-
45	Ottawa.....	882	205	-	-	72	-	-	-	48	-
46	Sacré Cœur.....	119	45	-	-	-	-	-	-	-	-
47	Western.....	-	776	-	-	-	-	-	-	-	-
48	Assumption.....	375	118	-	-	-	-	-	-	-	-
49	Alma.....	80	-	-	-	-	-	-	-	-	-
50	Huron.....	-	19	-	-	-	-	-	-	-	-
51	Ursuline.....	7	65	-	-	-	-	-	-	-	-
52	Waterloo.....	33	29	-	-	-	-	-	-	-	-
53	Evangelical Lutheran Seminary.....	-	-	-	-	-	-	-	-	-	-
54	Queen's.....	-	691	-	-	-	-	216	-	-	40
55	McMaster.....	2	282	-	-	-	-	-	-	-	-
56	Royal Military.....	-	-	-	-	-	-	-	-	-	20
57	Osgoode Hall.....	-	-	-	-	-	-	-	-	-	-
58	Margaret Eaton.....	-	-	-	-	53	-	-	-	-	-
59	St. Augustine's.....	-	-	-	-	53	-	-	-	-	-
60	Mount Carmel.....	92	-	-	-	9	-	-	-	-	-
61	Rédemptoristes.....	-	-	-	-	-	-	-	-	-	-
62	St. Jerome's.....	109	40	-	-	-	-	-	-	-	-
63	University of Toronto ¹	-	2,935	3	-	-	-	2	3	245	365
64	Emmanuel.....	-	88	-	-	-	-	-	-	-	-
65	Trinity.....	-	317	-	-	-	-	-	-	-	-
66	St. Michael's.....	460	349	-	-	-	-	-	-	-	-
67	Knox.....	-	-	-	-	-	-	-	-	-	-
68	Wycliffe, 1929.....	6	36	-	-	-	-	-	-	-	-

For footnotes see end of table pp' 858-9.

of the Regular Session by Faculties, 1929-30.

Undergraduate.												Graduate.			Others.			No.
Forestry.	Household Science.	Law.	Medicine.	Music.	Public Health and Nursing.	Pharmacy.	Social Service.	Theology.	Veterinary Science.	Others.	Total (Excluding Duplicates).	Arts and Science.	Theology.	Total.	Arts and Science.	Other.	Total.	
-	-	-	-	-	-	-	-	-	-	-	30	-	-	-	-	-	-	1
-	-	-	-	-	-	-	-	-	-	-	77	-	-	-	-	-	-	2
-	57	-	-	25	-	-	-	39	-	-	427	15	-	16	-	-	-	3
-	-	42	147	3	-	12	-	-	-	6	833	26	-	26	-	40	40	4
-	-	-	-	-	-	-	-	-	-	-	72	-	-	-	-	-	-	5
-	5	-	-	-	-	-	-	4	-	-	251	2	-	2	-	-	-	6
-	-	-	-	-	1	-	-	-	-	-	53	-	-	-	-	-	-	7
-	1	-	-	12	-	-	-	-	-	-	13	-	12	12	-	-	-	8
-	-	-	-	-	-	-	-	-	-	-	101	-	-	-	-	-	-	9
-	-	-	-	-	-	-	-	57	-	-	62	-	-	-	-	-	-	10
-	-	-	-	-	-	-	-	26	-	-	26	-	6	6	-	-	-	11
-	-	-	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-	12
-	-	-	-	-	-	-	-	-	-	-	55	-	-	-	-	-	-	13
-	-	-	-	-	-	14	-	-	-	-	14	-	-	-	-	-	-	14
-	-	-	-	-	-	-	-	-	-	-	48	-	-	-	-	-	-	15
-	-	-	-	-	-	-	-	2	-	-	82	-	-	-	-	-	-	16
59	20	-	18	3	-	-	-	-	-	-	354	8	-	8	-	-	-	17
-	-	9	-	-	-	-	-	-	-	-	333	-	-	-	-	-	-	18
-	-	-	-	-	-	-	-	32	-	-	142	17	6	23	-	-	2	19
-	78	93	469	235	36	22	29	-	-	51	2,653	166	-	174	-	-	-	20
-	12	-	-	-	-	-	-	-	-	-	85	-	-	-	-	205	205	21
-	-	-	-	-	-	-	-	2	-	-	17	-	-	-	-	-	-	22
-	-	-	-	-	-	-	-	20	-	-	21	2	2	4	-	-	-	23
-	-	-	-	-	-	-	-	49	-	-	49	6	6	12	-	7	7	24
-	-	184	222	-	-	86	-	308	-	-	957	-	-	-	-	-	-	25
-	-	-	-	-	-	-	-	-	-	-	192	-	-	-	-	-	-	26
-	-	-	-	-	-	-	-	-	-	-	178	-	-	-	-	-	-	27
-	-	-	-	-	-	-	-	-	-	12	116	-	-	-	-	-	-	28
-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	29
-	-	-	-	-	-	-	-	-	-	-	45	-	-	-	-	-	-	30
-	-	-	-	-	-	-	-	-	-	-	1,645	-	-	-	-	-	-	31
-	-	-	-	-	58	-	-	-	-	-	121	-	-	-	-	394	394	32
25	-	77	257	-	-	7	-	184	-	-	58	-	-	-	-	377	377	33
-	-	-	-	-	-	-	-	149	-	-	564	48	42	97	-	-	-	34
-	-	-	-	-	-	-	-	-	-	-	149	-	-	-	-	-	-	35
-	-	-	-	-	-	-	-	-	-	-	164	-	-	-	-	-	-	36
-	-	-	-	-	-	-	-	-	-	-	29	-	-	-	-	-	-	37
-	-	-	-	-	-	-	-	-	-	-	91	-	-	1	-	-	-	38
-	-	-	-	-	-	-	-	-	-	-	1,148	-	-	-	-	-	-	39
-	-	-	-	-	283	-	-	-	-	-	50	-	-	-	-	-	-	40
-	-	-	-	-	-	-	-	-	-	-	283	-	-	-	-	-	-	41
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42
-	-	-	-	-	-	-	-	-	-	-	381	-	-	-	-	-	-	43
-	-	-	-	-	-	-	-	165	-	-	459	-	-	-	-	-	-	44
-	-	-	-	-	116	-	-	92	-	-	536	-	37	37	-	-	-	45
-	-	-	-	-	-	-	-	-	-	-	45	-	-	-	-	-	-	46
-	-	-	148	-	8	-	-	-	-	-	932	-	-	-	-	-	-	47
-	-	-	-	-	-	-	-	1	-	-	119	3	1	4	-	-	-	48
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	54	49
-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	50
-	-	-	-	-	-	-	-	-	-	-	65	-	-	-	-	-	-	51
-	-	-	-	-	-	-	-	-	-	-	29	-	-	-	-	-	-	52
-	-	-	-	-	-	-	11	-	-	-	11	-	-	-	-	-	-	53
-	-	-	296	-	-	-	-	-	-	-	1,590	24	-	-	-	-	-	54
-	-	-	-	-	-	-	-	56	-	-	338	-	-	-	-	-	-	55
-	-	322	-	-	-	-	-	-	-	-	200	-	-	-	-	-	-	56
-	-	-	-	-	-	-	-	-	-	-	322	-	-	-	-	-	-	57
-	-	-	-	-	-	-	-	-	-	25	25	-	-	-	-	28	28	58
-	-	-	-	-	-	-	-	121	-	-	174	-	-	-	-	-	-	59
-	-	-	-	-	-	-	-	-	-	-	53	-	-	-	-	-	-	60
-	-	-	-	-	-	-	-	20	-	-	29	-	-	-	-	-	-	61
-	-	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	62
32	200	2	754	-	41	256	30	-	-	85	5,631	387	-	414	25	-	-	63
-	-	-	-	-	-	-	-	81	-	-	169	-	2	2	-	-	-	64
-	-	-	-	-	-	-	-	20	-	-	20	-	-	-	-	-	-	65
-	-	-	-	-	-	-	-	30	-	-	30	(15)	-	(15)	-	-	-	66
-	-	-	-	-	-	-	-	24	-	-	24	-	-	-	-	-	-	67
-	-	-	-	-	-	-	-	39	-	-	1	-	-	-	-	-	-	68

13.—Universities and Colleges of Canada: Full Time Students

No.	University or College.	Undergraduate.									
		Pre-matriculation	Arts.	Pure Science.	Letters.	Philosophy.	Agriculture.	Architecture.	Commerce.	Dentistry.	Education.
	University of Toronto ¹ —concluded.	-	-	-	-	-	309	-	-	-	-
1	Ontario Agricultural College.....	-	-	-	-	-	-	-	-	-	-
2	Ontario Veterinary College.....	-	-	-	-	-	-	-	-	-	-
3	Brandon College.....	24	144	-	-	-	-	-	-	-	-
4	University of Manitoba ⁴	-	1,464	-	-	-	96	30	-	-	-
5	Manitoba College.....	-	-	-	-	-	-	-	-	-	-
6	Wesley, 1929.....	142	307	-	-	-	-	-	-	-	-
7	St. John's.....	233	54	-	-	-	-	-	-	-	-
8	St. Boniface.....	218	40	-	-	-	-	-	-	-	-
9	University of Saskatchewan.....	-	636	185	-	-	64	-	-	-	21
10	Emmanuel.....	-	-	-	-	-	-	-	-	-	-
11	St. Andrew's.....	-	-	-	-	-	-	-	-	-	-
12	Lutheran.....	25	4	-	-	-	-	-	-	-	-
13	St. Chad's.....	-	-	-	-	-	-	-	-	-	-
14	Regina.....	93	111	-	-	-	-	-	-	-	-
15	Campion.....	170	61	-	-	-	-	-	-	-	-
16	Outlook.....	57	37	-	-	-	-	-	-	-	-
17	St. Peter's.....	52	17	-	-	-	-	-	-	-	-
18	Concordia.....	50	12	-	-	-	-	-	-	-	-
19	Jésuites.....	129	15	-	-	-	-	-	-	-	-
20	St. Jean.....	29	4	-	-	-	-	-	-	-	-
21	University of Alberta.....	-	363	85	-	-	88	-	78	38	13
22	St. Stephen's.....	-	-	-	-	-	-	-	-	-	-
23	Western Pharmacy.....	-	-	-	-	-	-	-	-	-	-
24	University of British Columbia.....	-	1,434	-	-	-	46	-	-	-	67
25	Victoria.....	-	204	-	-	-	-	-	-	-	-
26	Anglican, 1929.....	-	-	-	-	-	-	-	-	-	-
27	Union.....	2	-	-	-	-	-	-	-	-	-
	Totals, Canada⁵.....	19,480	14,808	859	-	452	956	68⁵	970	410	588

¹ Includes the arts students of Victoria, Trinity, St. Michael's, and students of the College of Pharmacy.² Included in Engineering.³ Included in Arts.⁴ Includes students of Manitoba Law School, and 304 students in arts also registered in affiliated colleges.

14.—Universities and Colleges of Canada

No.	University or College.	Arts, Letters and Pure Science.			
		Full time.		Part time.	
		M.	W.	M.	W.
1	Prince of Wales College.....	-	-	5	-
2	St. Dunstan's University.....	9	-	-	-
3	Totals, Prince Edward Island.....	9	-	5	-
4	Acadia University.....	40	8	-	-
5	Dalhousie University.....	40	-	10	-
6	University of King's College.....	10	-	-	-
7	St. Francis Xavier University.....	18	2	-	-
8	St. Mary's College.....	4	-	7	-
9	Collège Ste-Anne.....	6	-	-	-
10	Mt. St. Vincent College.....	-	3	-	-
11	Holy Heart Seminary.....	-	-	-	-
12	Pine Hill Divinity Hall.....	-	-	-	-
13	Nova Scotia College of Agriculture.....	-	-	-	-
14	Nova Scotia Technical College.....	-	-	-	-
15	Maritime College of Pharmacy.....	-	-	-	-
16	Totals, Nova Scotia.....	118	13	17	-
17	Collège du Sacré-Cœur.....	10	-	-	-
18	St. Joseph's University.....	8	-	2	-
19	Mt. Allison University ²	16	-	-	-
20	University of New Brunswick.....	10	-	14	-
21	Totals, New Brunswick.....	44	-	16	-

See bottom of page 860 for footnote.

of the Regular Session by Faculties, 1929-30—concluded.

Undergraduate.											Graduate.			Others.			No.	
Forestry.	Household Science.	Law.	Medicine.	Music.	Public Health and Nursing.	Pharmacy.	Social Service.	Theology.	Veterinary Science.	Others.	Total (Excluding Duplicates).	Arts and Science.	Theology.	Total.	Arts and Science.	Other.		Total.
	134									80	443					102	102	1
	166	61	287			51					80							2
											144					19	19	3
								27			2,421	11	11			90	90	5
											27							4
											307							6
								6			60							7
											40							8
	55	36	39			72				71	1,383	17		20	2	78	78	9
											50							10
											31							11
								7			7				1	5	6	12
								19			19							13
											111							14
											61							15
											37							16
											17							17
											12							18
											15							19
											4							20
	79	50	203		72	36					1,249	30		39	31	2	33	21
						44					44		2	2				22
					35						1,845	52		59				23
											204							24
								31			31							25
								6			6							26
146	807	874	2,840	278	653	600	591	1,631	121	238	30,359	827	104	968	61	1,401	1,462	27

⁵ To this figure should be added 51 students in the architecture section of the écoles des beaux arts in Montreal and Quebec.

⁶ Excluding 1,258 duplicates in undergraduate arts.

Teaching Staffs, 1929-30.

Professional Faculties.				Pre-matriculation.				Totals of Teaching Staff (Excluding Duplicates).				No.
Full time.		Part time.		Full time.		Part time.		Full time.		Part time.		
M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	
-	-	-	-	2	4	5	1	7	5	-	-	1
-	-	-	-	6	-	-	-	15	-	-	-	2
-	-	-	-	8	4	5	1	22	5	-	-	3
-	-	-	-	-	-	1	1	40	8	1	1	4
13	4	81	1	-	-	-	-	53	4	91	9	5
6	-	1	-	-	-	-	-	16	-	1	-	6
-	-	-	-	-	-	2	-	18	2	2	-	7
-	-	-	-	4	-	5	-	8	-	12	-	8
-	-	-	-	9	-	-	-	15	-	-	-	9
-	1	-	9	-	-	-	-	-	4	-	20	10
8	-	-	-	-	-	-	-	8	-	-	-	11
4	-	2	-	-	-	1	-	4	-	3	-	12
3	-	11	2	-	-	-	-	3	-	11	2	13
8	-	7	-	-	-	-	-	8	-	7	-	14
1	-	2	1	-	-	-	-	1	-	2	1	15
43	5	104	13	13	-	9	1	174	18	130	33	16
-	-	-	-	13	-	-	-	23	-	-	-	17
-	-	-	-	8	-	17	-	16	-	17	-	18
-	-	-	-	8	4	-	-	24	4	-	-	19
13	-	1	-	-	-	-	-	17	-	15	-	20
13	-	1	-	29	4	17	-	80	4	32	-	21

14.—Universities and Colleges of Canada

No.	University or College.	Arts, Letters and Pure Science.			
		Full time.		Part time.	
		M.	W.	M.	W.
1	Bishop's University ²	10	—	—	—
2	McGill University.....	93	13	—	—
3	Macdonald College.....	—	—	—	—
4	Presbyterian College.....	—	—	—	—
5	Diocesan Theological College.....	—	—	—	—
6	United Theological College.....	—	—	—	—
7	Université de Montréal ¹	216	15	10	—
8	Université Laval ¹	180	5	33	—
9	Ecoles classiques non affiliées (10) ²	41	—	—	—
10	Ecoles supérieures non affiliées (10).....	—	—	—	—
11	Totals, Quebec.....	540	33	43	—
12	Université d'Ottawa ¹	38	8	1	—
13	Sacré-Cœur, Sudbury.....	5	—	—	—
14	University of Western Ontario.....	65	16	30	—
15	Assumption College.....	17	—	—	—
16	Alma College.....	—	—	—	—
17	Huron College.....	—	—	—	—
18	Ursuline College.....	7	4	—	—
19	Waterloo College.....	7	1	5	—
20	Evangelical Lutheran Seminary.....	—	—	—	—
21	Queen's University.....	108	31	—	—
22	McMaster University.....	20	2	2	—
23	Royal Military College.....	—	—	—	—
24	Osgoode Hall Law School.....	—	—	—	—
25	Margaret Eaton School.....	—	—	—	—
26	St. Augustine's Seminary.....	—	—	—	—
27	Mount Carmel College.....	—	—	—	—
28	des Rédemptoristes (Students).....	—	—	—	—
29	St. Jérôme's College.....	—	—	—	—
30	University of Toronto ³	215	37	—	—
31	Victoria College.....	25	7	—	—
32	Emmanuel College.....	—	—	—	—
33	Trinity College.....	13	5	—	1
34	St. Michael's College.....	12	8	—	—
35	Knox College.....	—	—	—	—
36	Wycliffe College (1929).....	—	—	—	—
37	Ontario College of Pharmacy.....	—	—	—	—
38	Ontario Agricultural College.....	—	—	—	—
39	Ontario Veterinary College.....	—	—	—	—
40	Totals, Ontario.....	532	119	39	23
41	Brandon College.....	10	2	—	—
42	University of Manitoba.....	46	4	32	—
43	Manitoba Law School.....	—	—	—	—
44	Manitoba College.....	—	—	—	—
45	Wesley College, 1929.....	12	2	—	—
46	St. John's College.....	8	—	3	—
47	Collège St. Boniface.....	4	—	2	—
48	Totals, Manitoba.....	80	8	37	1
49	University of Saskatchewan.....	50	6	3	—
50	Emmanuel College.....	—	—	—	—
51	St. Andrew's College, 1929.....	—	—	—	—
52	Lutheran College.....	—	—	—	—
53	St. Chad's College.....	—	—	—	—
54	Regina College.....	6	3	—	—
55	Campion College.....	6	—	—	—
56	Outlook College.....	6	2	1	—
57	St. Peter's College.....	3	—	—	—
58	Totals, Saskatchewan.....	71	11	4	—
59	Concordia College.....	5	—	—	—
60	Collège des Jésuites.....	2	—	1	—
61	Juniorat St-Jean.....	5	—	—	—
62	University of Alberta.....	48	5	11	—
63	St. Stephen's College.....	—	—	—	—
64	Totals, Alberta.....	60	5	12	—
65	Western School of Pharmacy.....	—	—	—	—
66	University of British Columbia.....	74	26	3	—
67	Victoria College.....	5	4	1	—
68	Anglican College, 1929.....	—	—	—	—
69	Union Theological College.....	—	—	—	—
70	Totals, British Columbia.....	79	30	4	—
71	Totals, Canada.....	1,533	219	177	0

¹ Including affiliated and annexed schools.² Estimated division between faculties. Totals only given.³ Full time and part time not distinguishable. All entered as full time.

Teaching Staffs, 1929-30—concluded.

Professional Faculties.				Pre-matriculation.				Totals of Teaching Staff (Excluding Duplicates).				No.
Full time.		Part time.		Full time.		Part time.		Full time.		Part time.		
M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	M.	W.	
4	-	-	-	-	-	-	-	14	-	-	-	1
336	42	-	-	-	-	-	-	429	55	-	-	2
37	13	1	1	-	-	-	-	37	13	1	1	3
3	-	1	-	-	-	-	-	3	-	1	-	4
3	-	-	-	2	-	-	-	4	-	-	-	5
8	-	-	-	6	-	-	-	14	-	-	-	6
72	6	311	13	180	161	-	-	468	183	321	13	7
22	16	108	-	289	371	-	-	491	392	141	-	8
-	-	-	-	50	-	-	-	91	-	-	-	9
73	-	-	-	-	-	-	-	73	-	-	-	10
558	77	421	14	527	532	-	-	1,624	643	464	14	11
24	3	14	-	68	16	-	-	132	27	15	-	12
-	-	-	-	8	-	-	-	13	-	-	-	13
20	1	60	-	-	-	-	-	85	17	90	18	14
-	-	-	-	25	-	-	-	42	-	-	-	15
2	-	-	-	1	15	4	2	1	15	4	2	16
-	-	2	-	-	-	-	-	2	-	2	-	17
-	-	-	-	-	-	-	-	7	4	-	-	18
3	-	-	-	-	-	8	3	7	1	13	4	19
51	-	24	-	-	-	-	-	3	-	-	-	20
-	-	-	-	-	-	1	-	159	31	24	-	21
40	-	-	-	-	-	-	-	20	2	3	-	22
4	-	3	-	-	-	-	-	40	-	-	-	23
-	3	-	1	-	-	-	-	4	-	3	-	24
12	-	2	-	-	-	-	-	-	3	3	1	25
4	-	-	-	5	-	-	-	12	-	2	-	26
6	-	-	-	-	-	-	-	9	-	-	-	27
4	-	-	-	5	-	-	-	6	-	-	-	28
453	42	-	-	-	-	-	-	9	-	-	-	29
-	-	-	-	-	-	-	-	668	79	-	-	30
8	-	10	-	-	-	-	-	25	7	-	-	31
3	-	6	-	-	-	-	-	8	-	10	-	32
20	-	-	-	-	-	-	-	16	5	7	2	33
4	-	-	-	-	-	-	-	32	8	-	-	34
14	-	-	-	-	-	-	-	4	-	-	-	35
8	-	12	-	-	-	-	-	14	-	-	-	36
66	18	-	-	-	-	-	-	8	-	12	-	37
13	-	11	-	-	-	-	-	66	18	-	-	38
-	-	-	-	-	-	-	-	13	-	11	-	39
759	67	147	1	112	31	13	5	1,405	217	199	27	40
1	5	-	-	3	2	-	-	14	8	-	-	41
55	8	134	4	-	-	-	-	101	12	166	16	42
3	-	7	-	-	-	-	-	3	-	7	-	43
6	1	-	-	-	-	-	-	6	1	-	-	44
-	-	-	-	7	3	-	-	19	5	-	-	45
9	-	-	-	9	1	2	-	17	1	5	-	46
-	-	8	-	-	-	-	-	13	-	9	-	47
74	14	149	4	19	6	2	-	173	27	187	16	48
51	3	6	-	-	-	-	-	108	13	-	-	49
4	-	2	-	-	-	-	-	4	-	2	-	50
4	-	-	-	-	-	-	-	4	-	-	-	51
4	-	-	-	2	1	-	-	5	1	-	-	52
2	-	5	-	-	-	-	-	2	-	5	-	53
-	-	-	-	1	3	-	-	7	6	-	-	54
-	-	-	-	10	-	-	-	16	-	-	-	55
-	-	-	-	5	1	-	-	6	2	1	1	56
-	-	-	-	2	-	7	-	5	-	7	-	57
65	3	13	-	20	5	7	-	157	22	15	1	58
-	-	-	-	6	-	-	-	6	-	-	-	59
-	-	-	-	8	-	1	-	10	-	2	-	60
-	-	-	-	8	-	-	-	8	-	-	-	61
45	2	77	-	-	-	-	-	91	9	90	-	62
4	-	3	-	-	-	-	-	4	-	3	-	63
49	2	80	-	22	-	1	-	119	9	95	-	64
1	-	-	-	-	-	-	-	1	-	-	-	65
41	5	8	10	-	-	-	-	115	31	11	12	66
-	-	-	-	-	-	-	-	5	4	1	-	67
3	-	1	1	-	-	-	-	3	-	1	1	68
4	-	1	-	-	-	1	-	4	-	1	-	69
52	5	10	11	-	-	1	-	128	35	14	13	70
600	173	925	43	750	582	55	7	3,882	980	1,136	104	71

15.—Universities and Colleges of Canada

No.	University or College.	Assets.			
		Value of Endowments and Investments.	Value of Lands, Buildings, and Equipment.	Value of Other Property.	Total Assets.
1	Prince of Wales.....	-	400,000	-	400,000
2	St. Dunstan's.....	30,000	300,000	28,000	358,000
3	Totals, Prince Edward Island.....	30,000	700,000	28,000	758,000
4	Acadia ¹	1,283,858	1,630,964	41,674	2,956,496
5	Dalhousie.....	2,506,899	2,460,000	-	4,966,899
6	King's.....	160,000	480,000	8,000	648,000
7	St. Francis Xavier.....	369,000	507,000	510,000	1,386,000
8	St. Mary's.....	-	162,000	-	162,000
9	Sto-Anne.....	-	225,000	3,000	228,000
10	Pine Hill.....	274,691	155,914	-	430,605
11	Nova Scotia Agricultural.....	-	325,000	-	325,000
12	Nova Scotia Technical.....	-	500,000	-	500,000
13	Maritime Pharmacy.....	11,034	4,330	-	15,364
14	Totals, Nova Scotia².....	4,605,482	6,450,298	562,674	11,618,354
15	Sacré-Cœur.....	-	250,000	10,000	260,000
16	St. Joseph.....	-	383,748	41,800	425,548
17	Mt. Allison.....	586,002	571,300	-	1,157,302
18	New Brunswick ⁷	75,000	1,000,000	600,000	1,675,000
19	Totals, New Brunswick.....	661,002	2,205,048	651,800	2,517,850
20	Bishop's ³	827,047	299,984	-	1,127,031
21	McGill.....	17,602,876	10,076,206	-	27,679,082
22	Macdonald.....	4,250,000	3,250,000	-	7,500,000
23	Presbyterian.....	280,000	170,000	-	450,000
24	Diocesan.....	360,288	105,943	-	466,231
25	United.....	454,805	434,873	-	889,678
26	Montreal (Univ. faculties, except theology) ⁷	958,314	4,364,146	916,582	6,239,042
27	Ecole Polytechnique.....	-	454,372	51,555	505,927
28	Ecole Hautes Etudes Commerciales.....	-	780,886	-	780,886
29	Oka.....	-	226,700	-	226,700
30	Institut péd. et Marguerite Bourgeois.....	-	600,000	-	600,000
31	14 collèges classiques.....	-	11,722,000	-	11,722,000
32	Ecoles annexées (no report).....	-	-	-	-
33	Laval (Univ. faculties, except theology).....	2,289,822	2,000,000	-	4,289,822
34	Ste-Anne de la Pocatière.....	-	240,000	-	240,000
35	11 collèges classiques.....	-	8,774,500	-	8,774,500
36	Autres institutions affiliées (no report).....	-	-	-	-
37	Institutions non affiliées (no report).....	-	-	-	-
38	Totals, Quebec.....	27,023,152	43,499,610	968,137	71,490,899
39	Ottawa (1929) ⁴	-	1,200,000	-	1,200,000
40	Sacré-Cœur, Sudbury.....	-	175,000	-	175,000
41	University of Western Ontario.....	447,529	2,226,288	28,339	2,702,156
42	Assumption.....	-	850,000	200,000	1,050,000
43	Alma.....	8,000	175,558	-	183,558
44	Huron.....	97,655	36,538	7,000	141,193
45	Ursuline ⁵	-	400,000	-	400,000
46	Waterloo and Evangelical Lutheran.....	27,000	122,185	11	149,186
47	Queen's.....	2,294,375	4,000,000	-	6,294,375
48	McMaster (assets 1929) ⁷	1,112,313	451,881	218,350	1,782,544
49	Royal Military.....	-	-	-	-
50	Osgoode Hall.....	-	-	-	-
51	3 R.C. theological seminaries (no reports).....	-	-	-	-
52	St. Jerome's.....	-	350,000	-	350,000

For footnotes see end of table, pp. 864-5.

Financial Statistics, 1929-30.

Receipts.					Expenditure.			No.
From Investments.	From Governments and Municipalities.	From Fees. ⁸	From Other Sources. ⁹	Total Income.	Current.	Capital.	Total.	
-	26,389	1,700	-	28,089	28,089	-	28,089	1
900	-	600	44,000	45,500	42,000	4,500	46,500	2
900	26,389	2,300	44,000	73,589	70,089	4,500	74,589	3
47,881	-	61,575	499,787	609,243	267,949	-	267,949	4
96,633	-	134,455	35,821	266,909	293,047	11,296	304,343	5
10,000	-	4,300	54,700	69,000	68,000	-	68,000	6
43,278	-	3,494	91,092	137,864	119,844	-	119,844	7
-	-	10,500	14,000	24,500	26,000	1,250	27,250	8
-	-	10,026	20,500	30,526	30,500	-	30,500	9
17,623	-	-	21,746	39,369	50,450	11,634	62,084	10
-	28,730	-	-	28,730	28,730	-	28,730	11
-	40,000	8,000	5,000	53,000	160,000	8,000	168,000	12
583	-	3,205	-	3,788	4,699	-	4,699	13
215,998	68,730	235,555	742,646	1,262,929	1,049,219	32,180	1,081,399	14
-	-	30,000	10,000	40,000	40,000	-	40,000	15
-	-	18,505	73,570	92,075	77,546	4,548	82,094	16
33,715	-	37,209	65,049	135,973	135,973	13,198	149,171	17
2,827	40,000	28,741	1,248	72,816	71,249	-	71,249	18
36,542	40,000	114,455	149,867	340,864	324,768	17,746	342,514	19
28,008	256,000	19,870	34,320	338,198	117,431	-	117,431	20
1,100,580	96,975	470,946	473,228	2,141,729	2,399,270	-	2,399,270	21
231,000	42,000	27,100	179,000	479,100	537,468	-	537,468	22
14,000	-	-	25,600	39,600	19,500	-	19,500	23
18,907	433	-	31,855	51,195	45,909	-	45,909	24
25,239	-	1,128	46,412	72,779	73,203	-	73,203	25
90,702	37,200	126,123	41,383	295,408	366,473	6,744	373,217	26
-	125,000	32,297	13,151	170,448	164,872	-	164,872	27
-	154,000	26,619	4,217	184,836	171,963	6,887	178,850	28
-	39,610	12,681	108	52,399	51,989	-	51,989	29
-	-	-	174,542	174,542	174,542	-	174,542	30
-	130,000	-	1,299,849	1,429,849	1,429,849	-	1,429,849	31
-	-	-	-	-	-	-	-	32
103,899	40,000	62,414	17,573	223,886	229,151	-	229,151	33
-	52,641	5,736	-	58,377	63,446	-	63,446	34
-	90,000	-	991,000	1,081,000	1,081,000	-	1,081,000	35
-	-	-	-	-	-	-	-	36
-	-	-	-	-	-	-	-	37
1,612,335	1,063,859	784,914	3,332,238	6,793,346	6,926,066	13,631	6,939,697	38
-	-	-	188,000	188,000	194,000	-	194,000	39
-	-	-	36,000	36,000	35,000	-	35,000	40
14,671	356,000	107,343	77,069	555,083	490,765	73,574	564,339	41
-	10,000	35,000	150,000	195,000	180,000	-	180,000	42
94	-	23,495	53,935	77,524	77,524	-	77,524	43
11,239	-	1,729	14,229	27,197	27,623	-	27,623	44
-	-	5,341	9,157	14,498	23,491	-	23,491	45
-	-	5,040	30,098	35,138	34,046	1,718	35,764	46
133,643	302,200	233,069	25,471	694,383	692,978	-	692,978	47
66,559	-	19,495	52,768	138,822	138,701	-	138,701	48
-	375,000	(19,300) ⁸	-	375,000	374,724	-	374,724	49
-	-	38,940	-	38,940	26,629	-	26,629	50
-	-	-	-	-	-	-	-	51
-	-	2,000	37,000	39,000	34,000	-	34,000	52

15.—Universities and Colleges of Canada

No.	University or College.	Assets.			
		Value of Endowments and Investments.	Value of Lands, Buildings, and Equipment.	Value of Other Property.	Total Assets.
1	University of Toronto.....	6	15,753,028	6	15,753,028
2	Victoria University.....	3,122,506	1,564,374	—	4,686,880
3	Trinity.....	873,762	1,120,139	29,851	2,023,752
4	St. Michael's (no report).....	—	—	—	—
5	Knox.....	326,237	921,021	—	1,247,258
6	Wycliffe, 1929.....	729,217	185,990	—	915,207
7	Pharmacy.....	141,900	55,253	29,500	226,653
8	Ontario Agricultural.....	—	Not reported.	—	—
9	Ontario Veterinary.....	—	275,000	10,000	285,000
10	Totals, Ontario.....	9,180,494	29,852,255	523,021	39,565,770
11	Brandon College.....	112,664	254,226	17,537	384,427
12	University of Manitoba ¹	1,661,311	6,106,083	462,000	8,229,394
13	Manitoba Law School.....	—	—	—	—
14	Manitoba College.....	193,767	200,000	—	393,767
15	Wesley, 1929.....	303,991	712,695	54,712	1,071,398
16	St. John's.....	188,520	345,864	—	534,384
17	St. Boniface.....	8,000	500,000	—	508,000
18	Totals, Manitoba.....	2,468,253	8,118,868	534,249	11,121,370
19	University of Saskatchewan.....	30,498	4,116,455	—	4,146,953
20	Emmanuel.....	9,000	75,000	—	84,000
21	St. Andrew's, 1929.....	2,300	188,914	700	191,914
22	Lutheran.....	2,000	70,000	2,471	74,471
23	St. Chad's.....	25,268	160,243	—	185,511
24	Regina.....	2,000	821,615	—	823,615
25	Campion.....	—	250,000	12,000	262,000
26	Outlook.....	1,227	69,563	3,445	74,235
27	St. Peter's.....	—	175,000	30,000	205,000
28	Totals, Saskatchewan.....	72,293	5,926,790	48,616	6,047,699
29	Concordia College.....	—	150,000	—	150,000
30	Collège des Jésuites.....	—	240,000	5,000	245,000
31	Juniorat St. Jean.....	—	150,000	—	150,000
32	University of Alberta.....	500,000	3,600,561	158,877	4,259,438
33	St. Stephen's.....	58,000	205,000	20,000	283,000
34	Totals, Alberta.....	558,000	4,345,561	183,877	5,087,438
35	Western Pharmacy.....	—	20,000	3,000	23,000
36	University of British Columbia.....	35,000	3,744,386	248,742	4,028,128
37	Victoria.....	—	90,000	—	90,000
38	Anglican, 1929.....	24,887	136,047	—	160,934
39	Union.....	17,000	130,000	55,000	202,000
40	Totals, British Columbia.....	76,887	4,120,433	306,742	4,504,062
41	Totals, Canada.....	44,675,563	105,228,773	3,805,116	153,709,452

¹Acadia's income includes \$378,377 as gifts.²Exclusive of figures for Mt. St. Vincent College and Holy Heart Seminary.³Bishop's income includes a special Government grant of \$250,000.⁴Not including affiliated schools nor the faculty of theology.

Financial Statistics, 1929-30—concluded.

Receipts.					Expenditure.			No.
From Investments.	From Governments and Municipalities.	From Fees. ⁸	From Other Sources. ⁹	Total Income.	Current.	Capital.	Total.	
138,971	2,079,885	613,228	140,436	2,972,520	2,632,835	487,678	3,120,513	1
159,942	—	57,375	35,396	252,713	266,785	130,628	397,413	2
41,993	—	24,779	106,203	172,975	172,303	—	172,303	3
—	—	—	—	—	—	—	—	4
9,963	—	—	37,975	47,938	53,665	—	53,665	5
—	—	—	419,387	419,387	70,929	172,805	243,734	6
5,664	—	53,134	24,822	83,620	52,324	—	52,324	7
—	625,410	24,364	189,710	839,484	839,484	—	839,484	8
—	51,850	7,188	2,598	61,636	51,800	—	51,800	9
582,739	3,800,345	1,251,520	1,630,254	7,264,858	6,469,606	866,403	7,336,009	10
6,209	—	23,702	42,153	72,064	85,241	—	85,241	11
92,500	500,000	237,170	171,923	1,001,593	1,009,798	—	1,009,798	12
—	—	6,908	7,268	14,176	14,301	—	14,301	13
6,438	—	445	33,144	40,027	48,898	—	48,898	14
20,207	—	23,001	35,559	78,767	80,391	—	80,391	15
9,495	—	26,879	57,279	93,653	89,669	6,132	95,801	16
—	—	21,644	36,734	58,378	50,535	10,000	60,535	17
134,849	500,000	339,749	384,060	1,358,658	1,378,833	16,132	1,394,965	18
769	881,194	74,780	25,806	982,549	776,427	188,718	965,145	19
—	—	—	35,000	35,000	35,000	—	35,000	20
115	—	215	47,715	48,045	42,084	5,750	47,834	21
—	—	834	19,715	20,549	15,273	3,758	19,031	22
861	—	950	8,885	10,696	9,765	496	10,251	23
95	—	65,181	62,904	128,180	148,532	11,079	159,611	24
—	—	21,000	35,000	56,000	53,000	—	53,000	25
—	—	10,000	12,096	22,096	22,096	—	22,096	26
15,000	—	3,500	15,000	33,500	25,000	—	25,000	27
16,840	881,194	176,460	262,121	1,336,615	1,127,177	209,791	1,336,968	28
—	—	—	25,570	25,570	25,276	—	25,276	29
—	—	—	45,000	45,000	48,000	—	48,000	30
—	—	—	15,000	15,000	14,600	—	14,600	31
25,000	417,303	125,779	107,421	675,503	674,752	38,570	713,322	32
4,600	—	—	45,800	50,400	43,800	2,500	46,300	33
29,600	417,303	125,779	238,791	811,473	806,428	41,670	847,498	34
—	—	—	—	—	—	—	—	35
35,572	604,300	206,801	116,612	963,285	822,342	107,539	929,881	36
—	11,150	24,221	142	35,513	35,513	—	35,513	37
1,112	—	—	14,361	15,473	15,013	—	15,013	38
763	—	—	32,870	33,633	33,633	—	33,633	39
37,447	615,450	231,022	163,985	1,047,904	906,501	107,539	1,014,040	40
667,250	7,413,270	3,261,754	6,947,962	20,300,236	19,058,687	1,308,992	20,367,679	41

⁸Reverts to Consolidated Revenue Account.⁹Included with lands, etc.⁷Does not include expenditure made on new buildings during year.⁶Other than board and lodging.⁵Including board and lodging.

Section 2.—Scientific and Industrial Research in Canada.

Prior to 1870 the basis of research in Canada was observation and record rather than experiment. Fifty years ago, laboratories, except elementary ones of scant accommodation, were non-existent. The courses in science in the universities did not, before 1878, involve any practical work beyond extremely simple demonstrations. The industries did not concern themselves with scientific investigation, and research was not regarded as an essential feature of the work of the Government Departments, except possibly in the Geological Survey.

Scientific research in Canada began in the '80's with the institution in the universities of courses in experimental and practical science. Many of the investigators of Canadian origin who have distinguished themselves in the field of science within the last 30 years owe their incentive toward research to the outlook developed by these courses.

Since 1890, Canadian universities have steadily increased their equipment for scientific teaching and research. While many of the teachers have had little time for research or for advanced courses, scientific investigators in Canadian universities have made valuable contributions to the literature of the sciences and many of them have achieved high distinction.

Scientific societies, such as the Royal Canadian Institute, founded in 1842, and the Royal Society of Canada, founded in 1881, have also promoted research through the publication of papers giving the results of researches in the various departments of science and through the distinction conferred by membership in such societies.

Various departments of the Dominion and Provincial Governments have maintained scientific laboratories. Some of these have been concerned merely with routine examination or analysis, but in many cases research was undertaken. The research activities of government departments have, however, been inadequate to meet the needs of the situation. Less than 10 years ago, it was estimated that the amount expended annually by government laboratories for investigations of all kinds was less than \$325,000, of which less than \$100,000 was actually expended for research.

With the growth of Canadian wealth the scientific equipment of the leading Canadian universities has been greatly increased, and scientific researches are now being prosecuted on a considerable scale as a result of the research scholarships granted by the National Research Council of Canada, or endowed, by various wealthy benefactors, in the leading universities of the country. An especially notable achievement is the discovery of insulin, a preparation which indefinitely prolongs the lives of those suffering from diabetes, by Dr. F. G. Banting, Dr. J. H. Collip and Mr. C. H. Best, working under the supervision of Prof. J. J. R. Macleod, Professor of Physiology in the University of Toronto. The Nobel prize in medicine for 1923 was awarded to Dr. Banting and Dr. Macleod for their discovery, and in the same year Parliament voted to Dr. Banting a life annuity of \$7,500, to enable him to devote himself entirely to medical research.

The importance of scientific and industrial research has been recognized in recent years by the creation of the Honorary Advisory Council for Scientific and Industrial Research, now known as the National Research Council and by the establishment of provincial research organizations, notably the Research Council of Alberta and the Ontario Research Foundation. Provincial research organizations are also in process of formation in certain of the other provinces.

Subsection 1.—The National Research Council.¹

At the suggestion of the Government of Great Britain the National Research Council of Canada was established in December, 1916, as the Honorary Advisory Council for Scientific and Industrial Research.

The new organization found itself greatly handicapped during its early years by a lack of laboratory facilities. The only research laboratories of any consequence existing in Canada at that time were those of the universities, where many valuable researches were even then under way, but where the work was often seriously limited by lack of funds. This deficiency the National Research Council undertook to remedy, in particularly urgent cases, by the provision of special equipment or much-needed technical assistance. The serious shortage of scientifically trained men which the country was then experiencing led to the establishment of postgraduate research scholarships in the universities. Advisory committees were also created in some of the more important branches of science and technology, in order that the Council might have the benefit of the advice of specialists in extending its various activities.

Since 1924, the work of the Council has been largely expanded through the establishment of a number of research committees to undertake investigations on major problems, some of them of national importance. Arrangements were at first made for co-operative researches in the laboratories of Dominion and Provincial Government departments and the universities. More recently provision has been made for research work by the Council's own staff in laboratories of a more or less temporary character, and construction has been started of National Research Laboratories in which the Council will, it is hoped, be able to carry out effectively the various responsibilities assigned to it by the Research Council Act, as set out in page 939 of the Canada Year Book for 1930.

Organization and Staff.—The Council itself consists of 15 members, each of whom, with the exception of the President, is appointed for three years and serves entirely without remuneration. Its membership includes specialists in science, executives in the universities and the industries, and representatives of government departments that are carrying on scientific or industrial research.

The chief executive officer of the Council is the President. Responsible directly to him are the Secretary-Treasurer, in charge of the administrative staff, and the directors of the various professional divisions. The divisions already established by the Council are those of Biology, Chemistry, Physics and Research Information. The first three of these are actively engaged in laboratory researches. The Division of Research Information is responsible for the Council's research library, publications—including the recently established Canadian Journal of Research, a bibliographic and abstracting service, economic studies, and technical inquiries. Provision has been made for the organization of other divisions, as required.

Buildings and Equipment.—For the first 10 years of its existence the National Research Council had offices in the West Block of the Parliament Buildings at Ottawa. Early in 1927 more commodious quarters were secured in the business section of the city and the opportunity was taken to equip a small laboratory, which was urgently required in connection with the work of one of the Council's research committees. This was used until, in 1929, the Dominion Government purchased for the Council, an extensive area near the mouth of the Rideau river known as the Edwards Mill property. Plans were immediately set on foot for the

¹Prepared by F. E. Lathe, M.Sc., Director of Research Information, National Research Council, Ottawa. A list of the publications of the Research Council will be found in Chapter XXIX.

utilization of several of the old mill buildings as aeronautical research laboratories and as temporary laboratories for chemistry and physics, for which purposes they were admirably suited. The Government also decided to erect on a vacant 10-acre area on the same property the National Research Laboratories to be used permanently by the Council for scientific and industrial research.

The National Research Laboratories building, now practically complete, is to be opened in July, 1932. A brief description of this building and of the other laboratories on the Edwards property was given on pages 990-991 of the Canadian Year Book for 1931.

Laboratory Investigations.—Pending the completion of the new building of the National Research Laboratories the existing laboratories are being utilized to the fullest possible extent. Further, through a co-operative arrangement with the University of Alberta, the investigations of the Division of Biology and Agriculture are being carried out in the university laboratories and greenhouses at Edmonton.

The following researches are listed in the Council's annual report for 1930-31 as being in progress during that year:—

Division of Biology and Agriculture.—

- Composition of wheat in relation to state of maturity and exposure to frost.
- Gas production and retention in wheat flour doughs.
- Phenolic compounds of the wheat plant in relation to rust resistance.
- Preparation and denaturation of the gluten proteins.
- Biological assays of crop residues.
- Chemicals as herbicides.
- Weed survey of the Prairie Provinces.
- Statistical analysis of data collected by the Associate Committee on Accurate Plot Work.

Division of Chemistry.—

- The utilization of Canadian asbestos.
- The manufacture and application of plastic magnesia.
- The chemical utilization of natural gas.
- The chemical nature of rubber, and methods of vulcanization.
- The manufacture of synthetic resins.
- Research in problems of laundering.
- Leather research, especially in problems of tanning.
- Methods of testing raw wool.
- The isolation and utilization of the alkaloids of plants.
- The clarification of honey and the development of new honey products.
- The development of new products from maple sugar.
- The utilization of straw.
- The utilization of weed seeds.
- The utilization of loganberry pulp.
- The utilization of waste apples.

Division of Physics.—

- The anti-knock rating of air-craft fuels.
- The design of corners in fluid channels.
- The elimination of static in the Fairchild aerial camera in order to improve aerial photography.
- The construction of artificial lighting units suitable for grading grain.
- The heat conductivity of insulating materials used in building construction.

The waterproofing qualities of certain stone preservatives.

Vibration in electric transmission lines.

The standardization of radium.

X-rays.

Moisture condensation on dust particles.

Velocity of sound in liquids contained in cylindrical tubes.

Velocity of sound in cylindrical rods.

Transmission of an ultrasonic beam through air.

Voltmeter design.

Associate Committees.—Two classes of associate committees have been established by the National Research Council. The main function of the first class is to advise the Council on scientific questions, and of the second, to direct or undertake research work on some major problem.

Advisory committees have been established on chemistry, physics, botany, mining and metallurgy, nitrogen fixation, electrical measuring instruments and engineering standards. These committees report on problems referred to them by the Council, make recommendations as to researches which might be undertaken, issue reports, and keep closely in touch with the advances being made in their respective branches of science and technology.

The associate committees whose function it is to undertake research usually have in their membership representatives from other organizations prosecuting research or interested in the special problems which the committees were appointed to study. In this way co-operative researches are carried out with other government departments, both Dominion and provincial, the universities and various other organizations.

Research committees of the kind described have been established on animal diseases, asbestos, biophysics, coal classification, field-crop diseases, grain research, heating and insulation, honey, laundry research, leather, magnesite, natural gas, oceanography, radio, smelter smoke, tuberculosis, weed control, wool growing and manufacture. This partial list of subjects gives some idea of the extent and character of the external work of the Council.

Assisted Researches.—Assisted researches are those carried out in other laboratories than those of the National Research Council, and to which the Council has made a financial contribution for the purchase of equipment not ordinarily found in scientific laboratories, or for the provision of technical assistance in carrying out the experiments. In no case does the grantee receive any compensation for his own services. By this plan important contributions to science and industry have been made at a minimum of expense to the Government.

The following may be taken as fairly typical of the more than 100 investigations on this plan now under way in the laboratories of 10 Canadian universities and in 15 government and industrial laboratories:—

The fermentation of honey.

Mastitis in cows.

Winter hardiness in crop plants.

Foot- and root-rot diseases of crop plants.

Fowl paralysis.

Wireworms of the Canadian prairie.

Factors governing the milling and baking quality of wheat.

The effect of radiant energy on growth.
 The lateral support of steel columns and struts.
 The welding of steel structures.
 The effect of low temperature on steel castings.
 Pressure variations in the cylinders of internal combustion engines.
 The action of alkali waters on concrete.
 The chemical effect of high-speed cathode rays.
 Investigations of fundamental gas laws.
 Researches in the field of low temperatures.
 The floatability of pulpwood.

Training of Research Workers.—To give graduates of Canadian universities further specialized training in methods of scientific and industrial research, the National Research Council has established a series of postgraduate scholarships. These scholarships are of several classes, and awards are made according to the academic standing of the applicants and the extent of their experience in postgraduate research. The fact that two or three times as many applications are received as there are awards to be granted permits the Council to confine the award to applicants with outstanding qualifications.

The Council awards three classes of scholarships tenable in Canada, of an annual value¹ of \$750, \$1,000 and \$1,200, respectively. Foreign scholarships of a value of \$1,500 and a special scholarship of \$1,750 are awarded to men already holding the Ph.D. degree or its equivalent, for advanced study and research in foreign countries. The total annual expenditure on scholarships is about \$50,000.

At the end of the year under review 257 persons had completed their training in science under these awards. Three hundred and three grantees have secured the degree of M.A. or M.Sc., and 152 persons that of Ph.D. One thousand one hundred and seventy-four scientific papers have already been published by these grantees.

Of the 257 persons who have completed their training under these awards 60 are on the staffs of Canadian universities, 54 are employed in the industries, 50 have accepted positions in the technical branches of the Dominion and Provincial Governments and 28 are continuing their postgraduate studies. It is gratifying to note that very few have sought employment in foreign countries.

International Affiliations.—In accordance with its established policy of avoiding duplication of effort and of keeping in close touch with research centres elsewhere, especially within the Empire, the Council has taken out sustaining memberships in several British research organizations and is thereby kept fully informed of their activities. These include the Wool Industries Research Association, the British Leather Manufacturers' Research Association and the Linen Industries Research Association. In addition, the Council supports the International Mathematical Union, the International Chemical Union, the International Union of Pure and Applied Physics, the International Committee on the Annual Table of Constants and the Association of Special Libraries and Information Bureaux, and receives such advantages as may be derived from these memberships.

Subsection 2.—The Ontario Research Foundation.

The Ontario Research Foundation was established by Acts of the Provincial Legislature passed in 1928 and 1929 (18 Geo. 5, c. 57, and 19 Geo. 5, c. 86). The objects of the Foundation are as follows:—

¹For the year 1932-33 these scholarships are being reduced to \$600, \$750 and \$1,000, respectively.

- (a) The improvement and development of manufacturing and other industries by the introduction of advanced methods and processes.
- (b) The discovery and better development of the natural resources of the province and the discovery and utilization of the by-products of any processes in treating or otherwise dealing with the mineral, timber and other resources of the province.
- (c) The development and improvement of methods in the agricultural industry and the betterment, welfare and progress of farm life.
- (d) Scientific research and investigation for the mitigation and abolition of disease in animal or vegetable life and the destruction of insect or parasitic pests.
- (e) Generally, the carrying out, with the approval or under the direction of the Lieutenant-Governor in Council, of any other research work or investigation which may be deemed expedient.

The scheme provides that half of the cost of the Foundation shall be borne by the Legislature and the remaining half by subscriptions to be received from industries and private subscribers. An Advisory Council of 25 persons representing the scientific, agricultural and industrial interests of the province was established by Order in Council of May 14, 1929.

The present premises of the Ontario Research Foundation are 47 Queen's Park, Toronto, with additional quarters in a new building fronting on St. Joseph Street.

At the commencement of 1932 there were twenty full-time research men on the staff as well as the necessary administrative and non-technical workers. Industrial fellowships are supported by the following organizations: Canadian Automobile Manufacturers' Association, Consumers' Gas Company, Canadian Woollen Manufacturers' Association, Courtlands (Canada), Ltd., Ontario Metal Industries Research Association and a group of Ontario tanners. Problems not fundamental in character but nevertheless of importance to manufacturers are constantly under investigation. In these cases a research fellow is assigned to a definite problem and the cost of the investigation is borne by the firm concerned. The type of these investigations will be indicated by the following: the cause of spoilage of canned food-stuffs; the use of egg yolks in tanning; the examination of materials, hitherto imported from the United States, used in the baking industry and their substitution by Canadian products; the production of a special metal formerly imported from the United States and used in the manufacture of motor cars; and as many other problems of interest to industrialists. Officers of the Department of Agriculture and the Department of Mines have co-operated with the staff of the Foundation and financial support has been given to investigations of mutual interest. The various laboratories have been suitably equipped and researches in the following fields are in progress: textiles, bio-chemistry, bacteriology, animal pathology, leather, physical and chemical metallurgy, ceramics, fuel, gas, chemistry, agricultural economics, as well as geophysical prospecting and soil surveys in certain localities in the province. A report covering the work of the Foundation is issued annually.

Subsection 3.—Research Council of Alberta.

The Research Council of Alberta formerly known as the Scientific and Industrial Research Council of Alberta, was formed in January, 1921. It was incorporated under its new name by an Act of the Legislature of the Province of Alberta Mar. 21, 1930.

The Council originally consisted of five members, with the Provincial Secretary as Chairman, and was appointed "to supervise and direct research work, to engage specialists to perform such work and to define the duties of each". According to its report for 1931, the Premier of the province was then chairman, and the members included the Minister of Public Works, the President of the University of Alberta and several professors of the same institution. Valuable researches have been conducted on fuels and roads materials, as well as on geological and soil surveys and on the chemical utilization of natural gas.

Organization.—In the organization of the Provincial Government the Research Council is attached to the Department of the Executive Council.

The Research Council controls the policies of research and administers the funds voted annually by the Legislature for this purpose. The Council usually meets three or four times a year. The Director of Research, Dr. R. C. Wallace, President of the University of Alberta, is in executive charge of the work and assisted by a technical advisory committee.

Subsection 4.—The Saskatchewan Research Council Act, 1930.

The Research Council Act, 1930 (Sask. c. 88, 1929-30) provides for the constitution of a "Research Council of Saskatchewan" for the purpose of promoting the application of scientific methods to industry, and the development of natural resources within the province. It will consist of not more than ten members designated by the Government, and will include two members of the Executive Council with the President of the University of Saskatchewan as Director of Research.

Subsection 5.—The Royal Society of Canada.

An account of the origin, history and functions of the Royal Society of Canada contributed by Prof. J. Playfair McMurrich, Past President of the Royal Society of Canada, appeared at p. 884 of the 1924 Year Book.

Subsection 6.—The Royal Canadian Institute.

An Account of the Royal Canadian Institute, contributed by Prof. J. Playfair McMurrich, appeared at pp. 885-6 of the 1924 Year Book.

Section 3.—Public Libraries in Canada.¹

It is more than three and a quarter centuries since the first known library came to what is now the Dominion of Canada—the library brought by Marc Lescarbot to Port Royal in 1606. A library was connected with Laval College at its establishment in 1663, although it was many years later before this institution became important. During the next century record is found of several libraries in Quebec city; one of these, a Jesuit library mentioned by Peter Kalm, the Swedish traveller (its existence is recorded again in 1789) was afterwards sold to the *Quebec Gazette* and again sold in 1851 to the Library of Parliament. The volumes, which have survived the ravages of time and two fires, may still be found on Parliament Hill at Ottawa. Two other libraries founded in Quebec in the 18th century were a subscription library established in 1779 and the Quebec Legislative Library established in 1792. Four years later a public library was opened in Montreal. The Legislative Library of Upper Canada was established in 1791. The Legislative Library of Prince Edward Island is somewhat older, as it was founded in 1773. The King's College Library, located until recently at Windsor, Nova Scotia, and now at Halifax, dates from 1800, the year of the founding of the oldest existing public library in the Dominion, the library at Niagara. During the first quarter of the 19th century there were several libraries founded in Nova Scotia, several in Montreal, and at least one in Western Canada.

The first quarter of the 20th century was most active in the establishment of libraries for public use. Of the 1,110 existing Canadian libraries for which statistics have been secured, 256 are known to have been established during that period, without regard to the fact that the dates of founding have not been secured for all libraries and the certainty that for one reason or another some libraries did not survive.

Library legislation in the different provinces was probably one of the spurs to the establishment of libraries. Other reasons there must also have been; such as, for instance, the influence of immigration of a highly literate people to certain communities during the early part of the present century. A large proportion of these libraries was established during the years from 1910 to 1920, which include those of the Great War when men in training camps and in hospitals were needing books, and the immediate post-war years when numerous memorial libraries were built. The stimulated interest regarding other countries, a result of the War, must also have had a tendency towards promoting reading.

The statistics secured for Canadian libraries cover (a) 640 free public and association libraries, with which are included those maintained by the Women's Institutes; (b) 133 university, college and normal school libraries and those of other educational institutions; (c) 59 Government libraries, both Dominion and Provincial; (d) 59 commercial and technical libraries, including those of business corporations, historical or scientific societies, law societies, literary and art organizations and similar libraries; (e) 219 other libraries, including the parish libraries of Quebec, the Y.M.C.A. and Y.W.C.A. libraries, and those not included in any other group.

¹Revised by Miss G. S. Lewis, Librarian, Dominion Bureau of Statistics.

16.—Number and Contents of Canadian Libraries, 1930.

Item.	Free Public and Association.	University, College and Normal School.	Government.	Business and Technical.	Other.	Total.
Libraries listed.....	640	133	59	59	219	1,110
Libraries reporting, 1929-30.....	624	120	53	59	186	1,042
Libraries reporting closed.....	8	—	1	1	14	24
Libraries reporting contents only.....	16	39	28	31	17	131
Libraries reporting contents and circulation.....	584	79	18	27	166	874
Contents reported (No. of volumes).....	4,081,013	2,898,587	1,782,667	464,885	201,706	9,428,858

Of the 640 public and association libraries listed, 600 reported contents amounting in all to 4,081,013 volumes, and 590 reported an aggregate circulation of 16,791,734.

Section 4.—Art in Canada.

An article entitled "The Development of the Fine Arts in Canada", contributed by Newton MacTavish, M.A., D. Litt., appeared at pp. 995-1009 of the 1931 Year Book; and a short article, dealing more particularly with the National Art Gallery, at pp. 886-8 of the 1924 Year Book.

CHAPTER XXVI.—PUBLIC HEALTH AND BENEVOLENCE.

The rapid increase in the numbers committed to our various institutions, such as mental hospitals for the insane, feeble-minded and epileptic; the alleged increase in juvenile crime and the extension of social work in this field; the increasing number of institutions for the care of the aged and incurable, as well as for the care of dependent, neglected and handicapped children, have been a marked feature of the twentieth century. In this new and important field statistical data are collected and results analyzed and published in leading countries. Although the difficulties encountered in building up statistics on a uniform basis in Canada have been many, owing to the fact that most of these institutions are under provincial jurisdiction with overlapping fiscal years and different methods of administration, a definite effort has now been made (see Section 3 of this chapter) to correlate these statistics on a Dominion-wide basis.

The problems that confront social workers are largely problems of dependency, and a great many may be regarded as the resultants or by-products of industrial and economic changes. Among these problems may be considered ill-health, unemployment, mental strain and kindred situations in which the family or the individual finds it impossible to get along without assistance from the Government and the community.

In any comprehensive study of the situation it is essential that, besides health and hospitalization records, social statistics should also receive attention. Statistics regarding the number of children placed in foster homes, free family homes, number of children adopted, number of children cared for in day nurseries, the institutional care of juvenile delinquents, the numbers of dependent, neglected and handicapped children receiving institutional care, fuller and more accurate data concerning inmates in our mental institutions, institutions for the feeble-minded, county asylums, county almshouses, poorhouses, etc., are becoming absolutely necessary to the proper drafting of social legislation and in order to deal with the problems of civilization, growing more complex day by day.

As public and private charity work together for the amelioration of conditions covering the dependent and neglected, the proper treatment of defectives and the reclamation of the delinquent, the problem is made more difficult of statistical measurement, although the tendency to-day in most parts of Canada is to remove the responsibility of social work from the shoulders of individuals and private agencies and to regard it as more in the nature of a public responsibility. The growth in recent years of the most cordial relationships between governmental bodies and social welfare workers in the fields of school care and child welfare movements is manifested in the number of Child Welfare Acts in force in the various provinces of Canada.

Section 1.—Administration.

In Canada, speaking generally, the administration of public health activities and the establishment and maintenance of such institutions is in the hands of the various Provincial Governments, under the powers given them in sec. 92 of the British North America Act, 1867. Under their control municipalities, societies and individuals generally initiate charitable and humane efforts, depending on the Government to some extent for financial aid and for competent uniform inspection of methods and standards. Apart, however, from the actual organization of provincial Health Departments and of the administrative bodies charged with the management of hospitals and other such institutions, particular attention is given to the same branches of public health work in all the provinces. Important, and reflecting most clearly the benefits accruing from such work, are the provisions for medical inspection of school children. These are carried out in some cases by the district or sub-district medical health officers, and in others by public health nurses whose activities are confined to this work alone. In addition to the continuous supervision exercised over the health of the children, expert advice and assistance are supplied freely to children, teachers and parents. In many cases dental inspection is provided for. While this work has been carried on upon a considerable scale for only a few years, great benefits have already resulted from it, notably general improvement in health and sanitary conditions and in the control and prevention of epidemics.

In other directions also, governmental activities through Departments of Health have produced numerous evidences of their value, which may be illustrated by an examination of the death rates from various communicable and other diseases, such as are shown in the Vital Statistics chapter of the present volume. In Ontario, for example, the rate of deaths from tuberculosis decreased from 85.1 to 52.9 per 100,000 between 1913 and 1930, and that from typhoid fever from 19.4 to 2.3 per 100,000. While some other rates have increased, it may be noted that increases are not general in the case of communicable diseases and that, in respect of tuberculosis especially, the cities of the province show the lowest mortality rates. The reason for this is the fact that public health work is more advanced there than in the towns and rural areas.

Exercising particular jurisdiction over some phases of the general health of the people of the Dominion is the Department of Health of the Dominion Government, while the Dominion Council of Health acts as a clearing house on many important questions related to the health of the people. This Council consists of the Deputy Minister of the Dominion Department of Pensions and National Health as chairman, the chief executive officer of the provincial department or board of health of each province, together with such other persons, not exceeding five, as may be appointed by the Governor in Council to hold office for three years. Of the appointed members, four have in the past represented agriculture, labour, rural women's work and social service, and child welfare, while the fifth member is a scientific adviser on public health matters. (A fuller description of this Council will be found at pp. 908-9 of the 1926 Year Book.)

Subsection 1.—Public Health Activities of the Dominion Government.¹

The Act of Parliament (18-19 Geo. V, c. 39, An Act respecting the Department of Pensions and National Health) creating the Dominion Department of Pensions and National Health, clearly defined the functions of that Department, which

¹Revised by Dr. J. A. Amyot, Deputy Minister, Department of Pensions and National Health, Ottawa.

divided into two divisions, those of Pensions and National Health. The chief functions of the National Health Section (which from 1919 to 1929 was the Department of Health) are: to protect the country against the entrance of infectious disease; to exclude immigrants who might become a charge upon the country; to treat sick and injured mariners; to see that men employed on public construction work are provided with proper medical care; to set the standards and control the quality of food and drugs, except export meat and canned goods, which are under the Department of Agriculture; to control proprietary medicines and the importation and exportation of habit-forming drugs such as morphine, cocaine, etc.; to prevent the spread of venereal diseases; to care for lepers and to co-operate with the provinces with a view to preserving and improving the public health. The various divisions of the Department of Health, existing prior to the merger, are still maintained.

Quarantine Division.—This division of the Department has for its object the prevention of the entry into the country of major infectious diseases from ocean-going ships. Quarantine stations are therefore in operation at the several maritime ports. Every vessel coming from abroad is inspected and passengers or crews who are found to be suffering from infectious disease, together with contacts, are removed to the quarantine station after the principles laid down in the Convention of Paris, 1926.

Immigration Medical Division.—This division is charged with the medical examination and care of immigrants. With this end in view there has been placed in Great Britain, Ireland, and on the continent of Europe a staff of Canadian doctors, whose duty is to examine all intending emigrants to Canada prior to their embarkation. This arrangement obviates the expense, discomfort, disappointment and hardship occurring hitherto whenever it became necessary to deport, on account of physical or mental disability, immigrants who had come across the ocean to Canada.

Leprosy.—For many years there have been in operation in Canada two lazarettos for the treatment of leprosy, one at Tracadie, N.B., and the other at Bentinck Island, B.C. These are under the direction of the Department. Advances have been made in recent years not only in providing added comforts for the lepers, but in the actual treatment of the disease.

Marine Hospitals' Division.—This division provides surgical attendance and such other treatment as the case requires to all sick and injured mariners arriving at Canadian ports and belonging to vessels that pay sick mariners' dues, in conformity with Part V of the Canada Shipping Act.

Venereal Disease Control.—The Department co-operates with the provinces in the control of venereal diseases and largely co-ordinates the work and the recording of statistics of these diseases throughout the Dominion. It also publishes original articles and reviews of current literature on venereal diseases for the benefit of the medical profession.

Child Welfare Division.—In the field of child welfare, the Department co-operates with the provincial departments and voluntary organizations and acts as adviser to various bodies concerned with child welfare. The *Little Blue Books* on child welfare distributed throughout the country are of very great value to parents in helping them to care for their children and homes. Maternal mortality

has also seriously occupied the Chief of the division, and very valuable assistance has been given to the provinces, by statistics and otherwise, in arousing public opinion to the terrible wastage of mothers' lives through improper pre-natal care and careless medical attention, or entire lack of this, at the maternal periods and in the early life of the child.

Division of Sanitary Engineering.—The activities normally handled under Public Health Engineering include the administration of the Public Works Health Act, which supervises the health of men on construction works, canals, railways and other forms of public works.

By agreement with the U.S. Public Health Service, this branch investigates and reports on sources of water supplies for use aboard common carriers in international and interprovincial traffic between Canada and the United States. Special investigations and reports are made regarding pollution of the international boundary waters in conjunction with representatives of the U.S. Public Health Service. Supervision of water supplies of common carriers on the inland waters of Canada and in international and interprovincial traffic is another function. This branch co-operates with other Dominion departments *re* sanitation in National Parks and summer camps on Dominion lands and allied matters; with the American Railway Association regarding regulations on sanitation; with the provincial health departments and the U.S. Public Health Service for certifying water supplies of common carriers in interprovincial and international traffic.

Proprietary or Patent Medicine Division.—This division operates to give the public a reasonably safe and truthfully labelled proprietary medicine supply. Registration of all secret formula non-pharmacopœial medicines for human use is required, and control is exercised over the potent drugs employed in the manufacture of such medicines and the representations made regarding their use.

Laboratory of Hygiene.—The Laboratory of Hygiene is chiefly concerned with the control of biologic products used in treatment of human diseases, particularly with reference to the potency of certain toxins, antitoxins, and other serological preparations. Bacterial and other vaccines are scrutinized for purity, sterility and potency. Such powerful drugs as digitalis, strophanthus, ergot, pituitrin and the salvarsans, are examined for potency, and standards for them, based upon those of the League of Nations' Health Committee, are prepared by the Laboratory and furnished to all manufacturers desiring to use them in making their products. Disinfectants are investigated as to manufacturers' claims for germicidal qualities. Special and general aid is rendered to other departments of Government, and research problems are undertaken.

Food and Drugs Division.—In this division, inspection and laboratory services are maintained primarily for the purposes of the Food and Drugs Act which is regulatory in character, designed to prevent the importation and sale of adulterated or misbranded foods and drugs. Laboratories in Halifax, Montreal, Ottawa, Toronto, Winnipeg and Vancouver, normally examine about 12,000 samples annually, taken from suspected stocks. Corrective measures are applied whenever adulteration or misbranding is found. Standards of quality have been established for many products, and the informative, truthful label is a special objective. Laboratory services are provided for other divisions, and co-operation with other departments of Government is effectively carried on.

Narcotic Drug Division.—Since the introduction of opium smoking in Canada forty or more years ago the use of habit-forming drugs, such as morphine, heroin and cocaine, has increased. One of the first steps taken by the Department of Health was the creation of a Narcotic Branch. Through this branch, the importation and sale of such drugs are controlled in accordance with the principles laid down by the Hague and Geneva Conventions. Wholesale agents and druggists are obliged to keep records of importation or sale and to forward their records periodically to the Department. The legitimate use of these habit-forming drugs is thus controlled.

Division of Hospital Advisory Services.—This division offers expert advice and assistance with regard to planning, construction, organization and maintenance of hospitals.

Subsection 2.—Public Health Activities of the Provincial Governments.¹

Prince Edward Island.—The supervision of public health matters in Prince Edward Island was placed under a specially created Department of Public Health on July 1, 1931. Prior to this date, while the Government operated the Falconwood Hospital and the Provincial Infirmary, only a general supervision over public health matters was exercised. The Government co-operates closely with, and gives financial assistance to, the Red Cross Society. Two full-time public health officers, five public health nurses and two sanitary and food inspectors are employed. Under the direction of the public health officers, the province is divided into five public health territories and each nurse is given a territory in which she is responsible for the inspection of school children, home visits, home nursing classes, etc. The sanitary and food inspectors make regular surveys of the food-manufacturing plants, school premises, hotels, boarding houses, restaurants, etc.

Nova Scotia.—During the year 1931 all matters pertaining to public health, which had formerly been administered by the Minister of Agriculture and Public Works, were consolidated and a Ministry of Health established. This called for considerable reorganization as well as a broadening out of the Department relative to its spheres of activity. While the Department, as such, has only recently been brought into being, advances have already been made and others are being projected.

The field organization has been enlarged, a new anti-tuberculosis program launched, the cancer problem has received attention and at present a provincial public health nursing service is receiving serious consideration.

Close contact has been kept with the medical profession of the province and its co-operation and approval of all policies has been secured, through advisory committees.

An additional unit, of 84 beds, to the Provincial Sanatorium has just been completed; a tuberculosis annex to the Inverness County Memorial Hospital was opened late in the year, another annex in connection with St. Mary's Hospital is nearing completion, and two others are about to be started.

New Brunswick.—The New Brunswick Department of Health includes in its activities general sanitation, including supervision of water supply and drainage, the abatement of communicable diseases, medical inspection of schools, collection of vital statistics, public health nursing service, the administration of the Provincial Pathological and Public Health Laboratory, and the general supervision of the 16 health sub-districts into which the province is divided.

¹The material under this heading has been revised by the respective Provincial Authorities.

The Department is administered by the Minister of Health, and is under the immediate direction of a Chief Medical Officer. The staff of the Department consists of a chief of laboratories, four district medical health officers, six medical inspectors of schools, a director of public health nursing service, and two travelling tuberculosis diagnosticians, all being full-time officials. There is also a part-time director of venereal disease clinics. The 16 sub-district Boards of Health in which the province is divided have their own individual staffs all operating under the Provincial Health Act and Regulations. The Chief Medical Officer in his 14th annual report summarizes the chief activities of the Department during the year ending Oct. 31, 1931, under the headings already given.

Quebec.—The Provincial Bureau of Health, in charge of the Provincial Secretary, administers the Public Health Act. The province of Quebec inaugurated in 1926, a new system known as the "county health units" consisting of a full-time health service for a county or a group of two or three adjoining counties. At present, twenty-five health units covering thirty-three counties have been organized, while the former district health officers, reduced to eighteen, are in charge of all the territories not yet organized as county health units.

The services of all these officers and their staffs of nurses, sanitary inspectors, etc., are given in the form of consultations, public lectures, school medical inspections, babies' and travelling tuberculosis clinics and investigations of all kinds.

In addition, the Bureau of Public Health maintains an administrative division, a laboratory division, together with divisions of sanitary engineering and venereal diseases, vital statistics, epidemicology, tuberculosis and child welfare and a division of county health units.

The energies of the Bureau of Health are also directed towards the prevention of epidemics, more particularly tuberculosis and the more important causes of infant mortality. To this end, the Bureau of Health has established twenty-one anti-tuberculosis dispensaries and seventy baby clinics including those receiving Government grants. During the year 1930, in the anti-tuberculosis dispensaries and the travelling tuberculosis clinics, more than 50,000 people were examined. The various county health units have provided for the immunization of 58,000 children against diphtheria.

Ontario.—The Department of Health of Ontario is under a Minister of the Government. It includes divisions of sanitary engineering, laboratories, preventable diseases, maternal and child hygiene, medical and dental inspection of schools, industrial hygiene, public health education and inspection of training schools for nurses.

There are eight district health officers and some 25 public health nurses in the field, and the appropriation for the work is about \$900,000.

The local health work is carried on by a board of health and a medical officer of health in each of the 900 or more municipalities. Several cities have whole-time health officers, and the total local expenditure reaches nearly \$1,500,000.

Provision for the training of medical officers and public health nurses is made by the universities of the province. A school of hygiene in connection with the University of Toronto has been in operation since 1927. The Connaught Laboratories, housed in this school, provide ample supplies of the various biological products used in the prevention and cure of disease. These are supplied at low cost to the Government, which distributes them free to the public.

The vital statistics branch, recording births, marriages and deaths, was transferred to the Department of the Provincial Secretary in 1930.

Manitoba.—In 1928 the Government of Manitoba organized the Department of Health and Public Welfare. The various divisions of the Department include those of: disease prevention (food and dairy inspection, public health nursing, sanitation, venereal disease prevention); provincial laboratories; vital statistics; hospitalization; psychiatry (Selkirk and Brandon Hospitals for Mental Diseases; Home for Aged and Infirm, Portage la Prairie; Psychopathic Hospital, Winnipeg); child welfare.

The previously established Board of Health, the Welfare Supervision Board and the Child Welfare Board have assumed an advisory capacity to the Minister of Health and Public Welfare.

The Department administers the following Acts: Public Health Act, Child Welfare Act, Hospital Aid Act, Tuberculosis Control Act, Home for Aged and Infirm Act, Private Hospitals Act, Marriage Act, Mental Diseases Act, Municipal Hospitals Act, Venereal Disease Prevention Act, Vital Statistics Act, Health and Public Welfare Act, Lunacy Act.

The executive power of the Department is vested in the Minister of Health and Public Welfare. The Deputy Minister is the executive officer of the Board of Health, and, under the Public Health Act, the Chief Officer of Health for the province.

The Health and Public Welfare Act states that the Minister shall preside over and have the management and direction of the Department, and the Department shall have administrative jurisdiction over all matters in the province which relate to health and public welfare.

The Department may make rules and regulations; may institute inquiry into and collect information relating to, all matters of health and public welfare; may disseminate information, and take and direct such measures as may seem suitable to prevent and suppress disease.

Saskatchewan.—A Bureau of Public Health was established by the Public Health Act of 1909 while an amendment raised it to a Department on Mar. 22, 1923, with a Minister and a Deputy Minister in charge.

The following Acts are administered by the Department: Public Health Act, Vital Statistics Act, Union Hospital Act, an Act to Regulate Public Aid to Hospitals, an Act respecting Sanatoria and Hospitals for the Treatment of Tuberculosis, Venereal Disease Act, Mental Defectives Act and the Cancer Commission Act.

Six divisions with a director in charge of each, carry out the work of the department. The Division of Administration, under the Deputy Minister, supervises the activities of the Department as a whole and formulates general policies regarding health matters. It is responsible for the commitment of mental defectives to a training school, as well as for the care and treatment of patients in the two mental hospitals and those admitted to a psychopathic ward operated in connection with one of the general hospitals. Its duties also include the distribution of relief to unorganized districts and to needy expectant mothers in rural parts, whether organized or not. The Deputy Minister is also the Director of Hospital Management in which capacity he is responsible for the payment of the Government grant to hospitals and for administering the Regulations respecting these institutions. The Division of Public Health Nursing supervises the work of the public health nurses to do inspection work in schools, home visits, home nursing instruction and

classes, pre-school examination clinics and a generalized public health nursing service in their respective districts. The Division of Communicable Disease deals with the control of these diseases and distributes free sera and vaccine to physicians and hospitals. The Division of Sanitation supervises food, water, milk and ice supplies, sewerage systems, urban and rural sanitation and the organization of union hospital districts. The Division of Laboratories includes in its work bacteriology, pathology, chemical analyses and medico-legal work. The Division of Vital Statistics compiles records of births, marriages and deaths, etc. The Division of Venereal Disease provides and supervises dispensaries where free examination and treatment are given.

In 1930 a Cancer Commission was established by an Act of the Legislature and since then two clinics have been opened in the province for the treatment of cancer.

Hospitals.—In addition to the hospitals which Saskatchewan has in common with other provinces, there exists a system known as the union hospital scheme designed to furnish hospital accommodation in rural districts. Under the provision of this plan two or more rural municipalities may co-operate with any number of urban municipalities in arranging to build, equip and maintain a hospital. The Hospital Board may if it so desires institute what is known as free treatment, that is, the individual patient does not pay his hospital account but the total maintenance cost of the hospital is taxed against the district as a whole.

Alberta.—The Department of Public Health in Alberta was established by an Act of the Provincial Legislature in 1918, and all Acts having reference in any way to the health of the people were placed under its administration. To-day it includes the following branches: communicable diseases; hospital inspection and coroner's supervision of operations; laboratory; nursing; hospitals; social hygiene; sanitary engineering and sanitation; provincial dentist; mental hygiene; vital statistics; and the following institutions: (a) Central Alberta Sanatorium, (b) Provincial Mental Hospital, (c) Provincial Mental Institute, (d) Provincial Training School.

The Communicable Diseases Branch of the Department is conducting an intensive campaign against infectious diseases, special attention being given to the foreign-born people of the province. In co-operation therewith the Sanitary Engineering Branch aims to see that provision is made for good housing, good air, good water and the safe and quick removal of all deleterious substances.

The nurses in the Public Health Nursing Branch hold clinics of various kinds—pre-natal, infant, pre-school and school—in many parts of the province, main clinics being maintained in cities and large towns; rural clinics are sent out from the cities. Public lectures, cinemas and pamphlets are used to arouse public interest. District nurses, chosen for their resourcefulness and knowledge of maternal nursing, are maintained in remote districts.

Under the Municipal Hospital Act, on the vote of the people of a district a hospital suitable for their needs can be erected, in which patients are received at the rate of \$1 per day. The cost to ratepayers is approximately 3c. per acre. There are now 22 such municipal hospitals in Alberta.

Free clinics for venereal diseases are maintained in the principal cities, and excellent work is being done in the actual treatment of these diseases, as well as in the education of the public both by lectures and cinemas. All inmates of public institutions are examined and treatment provided for those who need it.

British Columbia.—The provincial Board of Health, responsible to the provincial Secretary, administers the laws relating to public health in British Columbia. Its branches comprise the following: sanitation, venereal clinics, laboratories, tuberculosis, infectious diseases and public health nursing. The sanitation Branch has directed numerous recent efforts to the prevention of the spread of communicable diseases by touring motorists, and to the control of campers and squatters along the coast. The Laboratories Branch, in addition to the analysis of specimens, distributes annually various vaccines and antitoxins. The Tuberculosis Branch has lately been augmented by a travelling diagnostician in tuberculosis and the addition of a portable X-ray machine. The Infectious Diseases and Public Health Nursing Branches are charged respectively with the control of such diseases and with the numerous duties included in public health nursing, principally nursing service, child welfare, school service and dental clinics. The Board of Health collects and publishes annually, in connection with its report, the vital statistics of the province.

Section 2.—Other Public Health Activities.

Subsection 1.—The Canadian Red Cross Society.

A brief description of the organization and activities of the Red Cross Society of Canada appeared on p. 923 of the Canada Year Book, 1922-23.

Subsection 2.—The Victorian Order of Nurses.

The activities of the Victorian Order of Nurses since its inception in 1897 are summarized in the Canada Year Book, 1922-23, p. 923.

Subsection 3.—Mothers' Allowances.

A statement regarding Mothers' Allowances, showing the numbers of beneficiaries and the scales of payments and methods of administration, was published on pp. 935-936 of the 1925 Year Book.

Section 3.—Institutional Statistics.¹

The most familiar of all the public institutions established to administer and better the general health of the community is the general hospital common to all cities and towns of any considerable population, and found also in the more prosperous rural districts. Such hospitals are generally erected and supported by the municipality, their actual administration being in the hands of a board of trustees; their revenue, in addition to that provided by the municipality, is derived in the main from grants from the Provincial Governments, from donations of individuals and societies, and from patients' fees. Admission and treatment are free to all deserving persons who apply for them and whose resources are so limited as to

¹This section has been revised by J. C. Brady, in Charge of Census of Institutions, Dominion Bureau of Statistics.

prevent their otherwise receiving proper medical attention, while it is more less generally expected of others that payments for services shall be made in proportion to costs and the ability of patients to defray them. Second in importance are the houses of refuge and orphanages, homes where destitute adults and homeless children are taken in, fed and clothed until they can support themselves or until homes for them are found elsewhere. Orphans' homes are found in practically every urban and rural community of any size, while refuges or homes for the aged are supported by the larger centres and by county municipalities. Asylums for the insane, also found in all the provinces, differ from the foregoing types in that they are in general owned, supported and administered entirely by the provinces. Nova Scotia, however, the insane of each county, together with the inmates of the refuges and orphanages, are in some instances cared for in one institution. Other institutions supported by the public include: isolation hospitals, maternal hospitals, homes for the deaf, dumb and blind, homes for incurables, infirmaries, homes for epileptics and lazarettos for lepers, and tuberculosis sanatoria.

Throughout the Dominion many other more or less similar institutions exist whose nature is more independent than that of the types mentioned above. These institutions do not receive Provincial Government grants and are not in all cases subject to inspection.

The Dominion Bureau of Statistics has been repeatedly urged to extend its statistical work into the institution and social statistics field. Authority was given by the Dominion Government in 1930 for the organization of a Branch to work along these lines, and in June 1931 a Census of Institutions was authorized to take place conjointly with the decennial population census of that year.

The 1931 Census of Institutions.—The Census of Institutions and Social Agencies throughout Canada may be considered as an extension of the decennial population census, which counts and analyzes the population, and ascertains the amount and value of agricultural products.

In classifying the various types of social service in Canada certain broad and well-established groups manifested themselves. Many of these groups have subdivisions and separate authorities with special qualifications are required to deal successfully with the varied problems that arise within these divisions. As a searching examination of the social welfare field in Canada it was decided that the census of the following institutions and social organizations be taken: (1) Hospitals, dispensaries and out-patient departments; (2) mental hospitals and institutions for the feeble-minded and epileptic; (3) institutions for the blind, deaf and dumb; (4) child-caring institutions; (5) homes for adults and homes for adults and children; (6) day nurseries and child-placing agencies.

The purpose and scope of the Census of Institutions was approved by all provincial health authorities and whole-hearted co-operation was received in working up the data. Without this support comprehensive statistics could not have been collected. In all, a total of twenty-nine schedules was used for the Census of Institutions, divided as follows: mental hospitals, 7; penal institutions, 5; hospitals and out-patient departments, 5; child-caring institutions, 5; homes for adults and day nurseries, 2.

The following table gives in summary form the numbers and types of public health and benevolent institutions in Canada, as at June 1, 1931, by provinces.

**—Number of Public Health and Benevolence Institutions for Canada, by Provinces,
as at June 1, 1931.**

Type of Institution.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yu- kon and N.W.T.	Total.
Hospitals—											
General Public.....	3	24	16	52	111	29	63	76	71	8	453
General Private.....	—	2	2	13	33	1	19	25	11	—	106
Public Maternity (only).....	—	—	1	1	2	—	1	—	1	—	6
Private Maternity (only).....	—	—	—	6	5	—	17	21	7	—	56
Pædiatric.....	—	1	—	4	2	1	1	—	—	—	9
Orthopædic.....	—	—	—	1	1	1	—	1	2	—	6
Dominion.....	—	6	4	5	8	2	—	1	4	—	30
Red Cross hospitals and outposts.....	—	—	1	—	23	5	13	—	2	—	44
Convalescent.....	—	—	—	4	5	1	—	1	9	—	20
Isolation.....	—	1	—	3	4	2	—	5	1	—	16
Tuberculosis.....	1	3	2	7	11	1	3	1	1	—	30
Incurables.....	—	—	1	19	7	—	2	3	1	—	33
Others.....	—	—	—	6	6	—	—	1	—	—	13
Totals.....	4	37	27	121	218	43	119	135	110	8	822
OUT-PATIENT DEPARTMENTS—											
In connection with hospitals.....	2	6	3	44	35	14	12	15	23	3	157
Independent of hospitals.....	—	1	1	8	1	1	—	1	—	—	13
Totals.....	2	7	4	52	36	15	12	16	23	3	170
Mental Institutions—											
Public hospitals for insane....	1	5	1	5	12	3	2	2	3	—	34
Private hospitals for insane....	—	—	—	1	2	—	—	—	1	—	4
Public hospitals for feeble- minded.....	—	1	—	1	1	1	—	1	—	—	5
County asylums and homes....	—	10	—	—	—	—	—	—	—	—	10
Private schools for children of retarded mental develop- ment.....	—	—	—	—	3	—	—	—	—	—	3
Psychiatric wards (Dominion in) in hospitals.....	—	—	—	1	1	—	—	—	1	—	3
Totals.....	1	16	1	8	19	4	2	3	5	—	59
Charitable and Benevolent Institutions—											
Homes for Adults.....	1	8	7	19	63	2	—	—	5	—	105
Homes for Adults and Child- ren.....	—	5	10	39	13	3	—	1	3	—	74
Orphanages.....	2	9	6	39	28	13	5	3	9	—	114
Day Nurseries.....	—	1	—	7	8	2	—	—	1	—	19
Totals.....	3	23	23	104	112	20	5	4	18	—	312
Child-Placing Agencies—											
Children's Aid Societies.....	2	13	4	1	56	4	3	4	3	—	90
Juvenile Immigration Societ- ies (British).....	—	2	1	2	9	1	1	1	1	—	18
Totals.....	2	15	5	3	65	5	4	5	4	—	108
Institutions for Blind, Deaf and Dumb.....	—	2	—	5	2	1	—	—	1	—	11
Grand Totals.....	10	93	56	241	416	73	130	147	138	8	1,312

Subsection 1.—Hospitals.

The great majority of hospitals are public hospitals which are either under municipal control or under private boards of management. These hospitals are assisted in their care of indigent patients by municipal and provincial grants. In addition we have private hospitals which do not receive public grants; hospitals conducted by various religious orders; convalescent hospitals; hospitals for incurables; tuberculosis sanatoria; Red Cross hospitals and out-posts; special

hospitals; lazarettos for the segregation and treatment of persons afflicted with leprosy; hospitals for the treatment of mental and nervous diseases which, generally speaking, maintained by the provinces, whilst the care of persons suffering from communicable diseases is the responsibility of the various municipalities.

There are also a limited number of hospitals under Dominion Government administration, e.g., those in connection with ex-service men, military forces, marine, quarantine and immigration.

The modern hospital is at once a battlefield between life and death, an institution for the practice of medicine and surgery and, viewed broadly, a financial enterprise which exceeds in magnitude many nation-wide industries. There has been a remarkable growth of public interest in the work of our hospitals in recent years and hospital statistics have become a necessity to the study of certain branches of present-day social economics.

The 1931 Census of Institutions comprises all hospitals, sanatoria, and outpatient departments devoted exclusively to the care of the sick and to the treatment of disease. Three schedules were sent out to all hospitals in Canada, comprising questionnaires under three main heads, *viz.*, general information, movement of patient population, and financial reports. Figures regarding the number of paid and free patients in hospitals and other important data concerning maintenance costs, capital invested, medical staff, salaries and wages, are not yet available for the whole of Canada. The following table gives uniform statistics for different classes of public hospitals, by provinces.

2.—Canadian General Hospital Statistics, by Provinces, as at June 1, 1931, with Movement of Hospital Population and Financial Statistics for the calendar year 1930

Province and Item.	General Public Hospitals.	T. B. Hos- pitals.	Province and Item.	General Public Hospitals.
Prince Edward Island.¹	No.		Yukon and Northwest Territories.¹	No.
Hospitals, by type.....	3	1	Hospitals, by type.....	
Training schools.....	3	-	Training schools.....	
Staff (June 1, 1931)—			Staff (June 1, 1931)—	
Doctors.....	1	1	Doctors.....	
Internes.....	2	-	Internes.....	
Graduate nurses.....	13	5	Graduate nurses.....	
Pupil nurses in training.....	56	-	Pupil nurses in training.....	
Hospitals with—			Hospitals with—	
X-Ray Department.....	3	1	X-Ray Department.....	
Clinical Laboratory.....	3	1	Clinical Laboratory.....	
Physical Therapy Department.....	2	-	Physical Therapy Department.....	
Movement of Population (during 1930)—			Movement of Population (during 1930).—	
Under treatment Jan. 1.....	120		Under treatment Jan. 1.....	
Admitted during year.....	3,115		Admitted during year.....	
Births.....	395		Births.....	
Discharges.....	3,389		Discharges.....	
Deaths.....	122		Deaths.....	
Under treatment Dec. 31.....	119		Under treatment Dec. 31.....	
Collective stay of all patients (hosp. days).....	42,879		Collective stay of all patients (hosp. days).....	15,500
Receipts (during 1930)—			Receipts (during 1930)—	
Government and municipal grants.....\$	8,200		Government and municipal grants.....\$	29,300
Fees of inmates.....\$	100,050		Fees of inmates.....\$	23,000
Total Receipts².....\$	135,790		Total Receipts².....\$	65,500
Disbursements—Maintenance (during 1930)—			Disbursements—Maintenance (during 1930)—	
Salaries, etc.....\$	30,752		Salaries, etc.....\$	20,000
Provisions.....\$	36,755		Provisions.....\$	15,000
Fuel, light, power and water.....\$	12,658		Fuel, light, power and water.....\$	8,000
Total Maintenance Expenses².....\$	111,795		Total Maintenance Expenses².....\$	51,000

¹ For Prince Edward Island, and Yukon and Northwest Territories information under other heads is not available.

² Include all other receipts or expenses.

—Canadian General Hospital Statistics, by Provinces, as at June 1, 1931, with Movement of Hospital Population and Financial Statistics for the calendar year 1930—continued.

Province and Item.	General Public Hospitals.	General Private Hospitals. ¹	Maternity only. ²	Red Cross.	Tuberculosis.	Isolation.	Dominion ³	Industrial, etc.
Nova Scotia.								
Hospitals, by type.....	24	2	1	—	3	1	6	—
Training schools.....	15	2	1	—	—	—	—	—
Staff (June 1, 1931)—								
Doctors.....	10	—	—	—	5	1	21	—
Internes.....	17	3	3	—	4	—	—	—
Graduate nurses.....	150	7	3	—	19	2	17	—
Pupil nurses in training.....	350	32	13	—	—	—	—	—
Hospitals with—								
X-Ray Department.....	19	2	1	—	1	—	1	—
Clinical Laboratory.....	15	2	1	—	—	—	2	—
Physical Therapy Department.....	6	—	—	—	—	—	1	—
Movement of Population (during 1930)—								
Under treatment Jan. 1.....	874	91	33	—	243	10	188	—
Admitted during year.....	23,982	3,086	900	—	386	313	2,684	—
Births.....	2,192	368	—	—	—	—	1	—
Discharges.....	25,243	3,402	845	—	333	290	2,663	—
Deaths.....	907	57	52	—	54	18	25	—
Under treatment Dec. 31.....	898	86	36	—	242	15	185	—
Collective stay of all patients (hosp. days).....	342,736	33,753	14,922	—	99,561	6,211	72,088	—
Receipts (during 1930)—								
Government and municipal grants.....\$	175,943	—	6,561	—	183,937	700	191,395	—
Fees of inmates.....\$	603,283	41,405	8,855	—	123,797	2,497	—	—
Totals, Receipts⁴.....\$	1,115,601	58,248	35,600	—	319,427	3,197	204,371	—
Disbursements—Maintenance (during 1930)—								
Salaries, etc.....\$	330,527	13,138	13,087	—	121,768	7,377	120,460	—
Provisions.....\$	257,947	25,755	8,512	—	104,520	2,330	43,406	—
Fuel, light, power and water.....\$	108,336	6,387	2,737	—	60,424	2,540	13,417	—
Totals, Maintenance Expenses⁴.....\$	1,010,272	56,360	32,574	—	320,692	13,647	204,371	—
New Brunswick.								
Hospitals, by type.....	16	2	1	1	2	—	4	—
Training schools.....	14	—	1	—	1	—	—	—
Staff (June 1, 1931)—								
Doctors.....	7	—	—	—	5	—	9	—
Internes.....	5	—	—	—	—	—	—	—
Graduate nurses.....	68	6	4	1	34	—	8	—
Pupil nurses in training.....	350	—	3	—	11	—	—	—
Hospitals with—								
X-Ray Department.....	15	1	—	—	2	—	—	—
Clinical Laboratory.....	14	—	—	—	2	—	2	—
Physical Therapy Department.....	11	—	—	—	1	—	1	—
Movement of population (during 1930)—								
Under treatment Jan. 1.....	605	13	43	—	284	—	72	—
Admitted during year.....	16,642	292	311	130	403	—	786	—
Births.....	1,127	7	293	—	—	—	—	—
Discharges.....	17,034	289	591	129	289	—	775	—
Deaths.....	796	10	16	1	68	—	4	—
Under treatment Dec. 31.....	544	13	40	—	330	—	79	—
Collective stay of all patients (hosp. days).....	242,606	3,590	7,174	1,444	114,825	—	25,592	—
Receipts (during 1930)—								
Government and municipal grants.....\$	175,554	—	2,080	250	267,100	—	79,323	—
Fees of inmates.....\$	506,760	6,540	12,249	3,673	92,715	—	—	—
Totals, Receipts⁴.....\$	737,373	6,540	19,021	3,923	369,815	—	83,175	—
Disbursements—Maintenance (during 1930)—								
Salaries, etc.....\$	224,725	3,114	5,072	2,086	108,154	—	53,952	—
Provisions.....\$	188,556	750	6,468	915	91,615	—	15,974	—
Fuel, light, power and water.....\$	84,406	685	2,720	586	27,745	—	2,919	—
Totals, Maintenance Expenses⁴.....\$	692,437	5,549	18,670	4,092	232,634	—	83,175	—

¹ Private hospitals include private maternity, convalescent and general nursing homes.

² Include orthopaedic and paediatric.

³ Include hospitals administered by the Departments of Pensions and National Health, National Defence, etc.

⁴ Include all other receipts or expenses.

2.—Canadian General Hospital Statistics, by Provinces, as at June 1, 1931, with Movement of Hospital Population and Financial Statistics for the calendar year 1930—continued.

Province and Item.	General Public Hospitals.	General Private Hospitals. ¹	Maternity only. ²	Red Cross.	Tuberculosis.	Isolation.	Dominion. ³	Industrial, etc.
Quebec.	No.	No.	No.	No.	No.	No.	No.	No.
Hospitals, by type.....	50	23	6	—	7	3	5	—
Training schools.....	34	3	5	—	1	2	—	—
Staff (June 1, 1931)—								
Doctors.....	105	15	6	—	17	4	12	—
Internes.....	184	3	11	—	11	8	—	—
Graduate nurses.....	493	37	39	—	45	22	35	—
Pupil nurses in training.....	1,369	80	99	—	18	49	—	—
Hospitals with—								
X-Ray Department.....	44	7	3	—	6	—	3	—
Clinical Laboratory.....	35	6	4	—	5	2	3	—
Physical Therapy Department.....	36	5	3	—	4	—	2	—
Movement of population (during 1930)—								
Under treatment Jan. 1.....	4,290	362	256	—	729	284	430	3
Admitted during year.....	89,573	4,448	2,346	—	1,165	2,763	1,294	1,5
Births.....	7,463	564	624	—	—	—	1	—
Discharges.....	92,086	4,839	2,751	—	774	2,662	1,261	1,7
Deaths.....	4,642	143	199	—	173	118	35	—
Under treatment Dec. 31.....	4,598	392	276	—	947	267	429	—
Collective stay of all patients (hosp. days).....	1,820,070	131,488	107,911	—	274,209	87,792	7,633	30,8
Receipts (during 1930)—								
Government and municipal grants.....	\$ 1,584,034	\$ 39,058	\$ 79,220	—	\$ 129,679	\$ 138,104	\$ 509,667	\$ 111,2
Fees of inmates.....	\$ 3,061,590	\$ 115,767	\$ 66,128	—	\$ 373,892	\$ 178,398	—	\$ 67,5
Totals, Receipts⁴	\$ 6,364,115	\$ 278,736	\$ 332,224	—	\$ 577,816	\$ 323,436	\$ 520,853	\$ 191,5
Disbursements—Maintenance (during 1930)—								
Salaries, etc.....	\$ 1,954,340	\$ 95,424	\$ 128,000	—	\$ 180,045	\$ 106,752	\$ 292,498	\$ 70,5
Provisions.....	\$ 1,417,929	\$ 58,832	\$ 60,675	—	\$ 178,323	\$ 58,178	\$ 96,454	\$ 22,4
Fuel, light, power and water.....	\$ 476,544	\$ 18,782	\$ 26,783	—	\$ 86,942	\$ 23,308	\$ 48,287	\$ 5,7
Totals, Maintenance Expenses⁵	\$ 5,297,895	\$ 233,467	\$ 301,401	—	\$ 535,121	\$ 219,396	\$ 520,853	\$ 177,4
Ontario.								
Hospitals, by type.....	111	42	5	23	11	4	7	—
Training schools.....	86	7	2	—	1	2	—	—
Staff (June 1, 1931)—								
Doctors.....	54	9	6	—	38	5	49	—
Internes.....	173	2	13	—	15	4	—	—
Graduate nurses.....	869	73	58	45	177	34	78	—
Pupil nurses in training.....	3,487	113	139	—	39	52	—	—
Hospitals with—								
X-Ray Department.....	93	11	3	4	10	1	2	—
Clinical Laboratory.....	65	7	2	—	10	1	3	—
Physical Therapy Department.....	48	10	1	—	6	—	2	—
Movement of Population (during 1930)—								
Under treatment Jan. 1.....	6,544	278	428	80	2,089	292	398	—
Admitted during year.....	171,326	8,515	7,987	2,607	2,428	3,354	3,643	—
Births.....	24,061	1,571	384	441	6	—	—	—
Discharges.....	185,183	9,892	7,600	2,913	1,852	3,262	3,523	—
Deaths.....	9,697	201	717	121	431	108	96	—
Under treatment Dec. 31.....	7,051	271	482	94	2,240	276	422	—
Collective stay of all patients (hosp. days).....	2,554,799	96,894	155,472	30,236	811,253	93,915	153,624	12,1
Receipts (during 1930)—								
Government and municipal grants.....	\$ 2,377,747	\$ 1,425	\$ 267,481	\$ 15,091	\$ 1,506,645	\$ 259,996	\$ 927,302	—
Fees of inmates.....	\$ 6,003,045	\$ 360,051	\$ 151,312	\$ 87,312	\$ 318,066	\$ 38,307	—	\$ 14,2
Totals, Receipts⁴	\$ 9,930,744	\$ 411,357	\$ 578,249	\$ 133,933	\$ 2,154,354	\$ 298,303	\$ 927,302	\$ 25,2
Disbursements—Maintenance (during 1930)—								
Salaries, etc.....	\$ 3,655,442	\$ 138,167	\$ 280,833	\$ 74,026	\$ 713,449	\$ 146,521	\$ 549,645	\$ 14,2
Provisions.....	\$ 2,302,179	\$ 119,419	\$ 123,591	\$ 26,131	\$ 523,966	\$ 60,190	\$ 192,220	\$ 5,7
Fuel, light, power and water.....	\$ 843,333	\$ 43,928	\$ 51,325	\$ 9,322	\$ 171,815	\$ 22,367	\$ 56,950	\$ 1,7
Totals, Maintenance Expenses⁵	\$ 9,497,693	\$ 432,155	\$ 608,646	\$ 133,933	\$ 1,821,624	\$ 265,462	\$ 927,302	\$ 27,7

¹ Private hospitals include private maternity, convalescent and general nursing homes.

² Include orthopaedic and paediatric.

³ Include hospitals administered by the Departments of Pensions and National Health, National fence, etc.

⁴ Include all other receipts or expenses.

2.—Canadian General Hospital Statistics, by Provinces, as at June 1, 1931, with Movement of Hospital Population and Financial Statistics for the calendar year 1930—continued.

Province and Item.	General Public Hospitals.	General Private Hospitals. ¹	Maternity only. ²	Red Cross.	Tuber- culosis.	Isola- tion.	Do- minion. ³	Indus- trial, etc.
Manitoba.	No.	No.	No.	No.	No.	No.	No.	No.
Hospitals, by type.....	27	2	2	5	1	2	2	-
Training schools.....	16	-	1	-	-	2	-	-
Staff (June 1, 1930)—								
Doctors.....	38	-	4	-	6	3	16	-
Internes.....	56	-	8	-	3	3	-	-
Graduate nurses.....	186	2	24	5	22	30	17	-
Pupil nurses in training.....	706	-	44	-	-	48	-	-
Hospitals with—								
X-Ray Department.....	19	-	2	-	1	2	1	-
Clinical Laboratory.....	11	1	2	-	1	2	1	-
Physical Therapy Department.....	6	-	2	-	1	-	1	-
Movement of Population (during year 1930)—								
Under treatment Jan. 1.....	1,878	45	115	-	281	279	120	-
Admitted during year.....	41,551	417	2,560	-	294	2,017	1,189	-
Births.....	5,716	112	-	85	-	1	-	-
Discharges.....	45,737	541	2,470	68	248	1,891	1,120	-
Deaths.....	1,661	-	81	17	47	146	14	-
Under treatment, Dec. 31.....	1,747	33	124	-	280	260	175	-
Collective stay of all patients (hosp. days).....	648,078	13,966	45,694	-	102,261	101,359	51,051	-
Receipts (during 1930)—								
Government and municipal grants.....	\$ 630,795	\$ 10,847	\$ 46,828	\$ 5,000	\$ 83,576	\$ 91,073	\$ 122,737	-
Fees of inmates.....	\$ 1,286,717	\$ 7,165	\$ 12,752	\$ 558	\$ 8,035	\$ 23,681	-	-
Totals, Receipts⁴	\$ 2,075,187	\$ 19,231	\$ 134,390	\$ 7,155	\$ 255,369	\$ 120,344	\$ 122,727	-
Disbursements—Maintenance (during 1930)—								
Salaries, etc.....	\$ 821,680	\$ 5,541	\$ 67,618	\$ 8,270	\$ 118,378	\$ 119,529	\$ 70,790	-
Provisions.....	\$ 415,469	\$ 5,808	\$ 25,377	-	\$ 78,581	\$ 19,107	\$ 32,670	-
Fuel, light, power and water.....	\$ 197,337	\$ 2,169	\$ 5,044	-	\$ 24,946	\$ 53,443	\$ 9,412	-
Totals, Maintenance Expenses⁴	\$ 1,556,981	\$ 17,021	\$ 144,895	\$ 9,652	\$ 255,369	\$ 300,542	\$ 122,737	-
Saskatchewan.								
Hospitals, by type.....	59	36	2	13	3	-	-	-
Training schools.....	17	1	-	-	-	-	-	-
Staff (June 1, 1930)—								
Doctors.....	10	2	1	-	13	-	-	-
Internes.....	15	-	-	-	8	-	-	-
Graduate nurses.....	283	13	4	21	50	-	-	-
Pupil nurses in training.....	605	4	-	-	23	-	-	-
Hospitals with—								
X-Ray Department.....	47	3	-	1	3	-	-	-
Clinical Laboratory.....	33	2	-	-	3	-	-	-
Physical Therapy Department.....	14	2	-	-	3	-	-	-
Movement of Population (during 1930)—								
Under treatment Jan. 1.....	1,921	57	30	38	676	-	-	-
Admitted during year.....	48,943	2,014	253	1,934	3,422	-	-	-
Births.....	6,261	680	82	592	1	-	-	-
Discharges.....	53,680	2,655	331	2,480	3,274	-	-	-
Deaths.....	1,839	42	3	44	65	-	-	-
Under treatment Dec. 31.....	1,606	54	31	40	760	-	-	-
Collective stay of all patients (hosp. days).....	707,441	15,922	10,185	20,840	282,378	-	-	-
Government and municipal grants.....	\$ 660,546	\$ 424	\$ 6,485	\$ 16,920	\$ 856,952	-	-	-
Fees of inmates.....	\$ 1,380,994	\$ 22,769	\$ 1,438	\$ 20,479	\$ 31,257	-	-	-
Totals, Receipts⁴	\$ 2,364,165	\$ 31,910	\$ 32,634	\$ 43,277	\$ 889,434	-	-	-
Disbursements—Maintenance (during 1930)—								
Salaries, etc.....	\$ 838,427	\$ 8,928	\$ 7,686	\$ 32,771	\$ 29,762	-	-	-
Provisions.....	\$ 528,458	\$ 9,078	\$ 3,965	\$ 5,349	\$ 192,621	-	-	-
Fuel, light, power and water.....	\$ 241,469	\$ 4,795	\$ 1,771	\$ 1,540	\$ 123,289	-	-	-
Totals, Maintenance Expenses⁴	\$ 2,127,835	\$ 34,847	\$ 17,933	\$ 50,971	\$ 550,155	-	-	-

¹ Private hospitals include private maternity, convalescent and general nursing homes.

² Include orthopaedic and paediatric.

³ Include hospitals administered by the Departments of Pensions and National Health, National Defence, etc.

⁴ Include all other receipts or expenses.

2.—Canadian General Hospital Statistics, by Provinces, as at June 1, 1931, with Movement of Hospital Population and Financial Statistics for the calendar year 1930—concluded.

Province and Item.	General Public Hospi- tals.	General Private Hospi- tals. ¹	Mater- nity only. ²	Red Cross.	Tuber- culosis.	Isola- tion.	Do- minion. ³	Indus- trial, etc.
Alberta.	No.	No.	No.	No.	No.	No.	No.	No.
Hospitals, by type.....	76	37	1	—	1	5	1	1
Training schools.....	13	—	—	—	—	2	—	—
Staff—(June 1, 1931)								
Doctors.....	15	4	—	—	4	—	8	—
Internes.....	31	1	—	—	3	—	—	—
Graduate nurses.....	342	15	5	—	22	12	9	1
Pupil nurses in training.....	688	—	—	—	—	4	—	—
Hospitals with—								
X-Ray Department.....	48	5	—	—	1	1	1	1
Clinical Laboratory.....	26	5	—	—	1	1	1	1
Physical Therapy Department.....	15	4	1	—	—	1	1	1
Movement of Population (during 1930)—								
Under treatment Jan. 1.....	2,089	152	38	—	196	103	105	1
Admitted during year.....	56,179	963	111	—	138	980	840	74
Births.....	8,013	399	23	—	—	—	—	31
Discharges.....	62,274	1,454	131	—	133	962	804	67
Deaths.....	2,028	23	3	—	47	62	11	4
Under treatment Dec. 31.....	1,979	36	38	—	204	59	130	5
Collective stay of all patients (hosp. days).....	803,175	14,764	13,601	—	74,454	25,439	43,400	623
Receipts (during 1930)—								
Government and municipal grants.....	\$ 960,215	—	12,116	—	94,818	95,705	95,607	—
Fees of inmates.....	\$ 1,459,971	31,123	—	—	23,353	21,189	—	—
Totals, Receipts⁴.....	\$ 2,813,196	37,114	22,851	—	118,171	116,985	95,607	—
Disbursements—Maintenance (during 1930)—								
Salaries, etc.....	\$ 1,021,214	15,583	11,872	—	14,158	68,059	57,503	—
Provisions.....	\$ 574,731	10,290	3,705	—	79,858	20,367	18,809	—
Fuel, light, power and water.....	\$ 214,012	6,411	949	—	29,044	9,912	4,180	—
Totals, Maintenance Expenses⁴.....	\$ 2,597,329	41,125	18,588	—	185,981	112,664	95,607	—
British Columbia.								
Hospitals, by type.....	71	26	3	2	1	1	4	—
Training schools.....	18	2	—	—	1	—	—	—
Staff (June 1, 1931)—								
Doctors.....	41	4	1	—	5	1	14	—
Internes.....	8	—	—	—	—	—	—	—
Graduate nurses.....	355	29	12	5	31	3	24	—
Pupil nurses in training.....	627	4	16	—	9	—	—	—
Hospitals with—								
X-Ray Department.....	61	2	—	1	1	—	1	—
Clinical Laboratory.....	27	—	1	—	1	—	3	—
Physical Therapy Department.....	17	2	2	—	1	—	1	—
Movement of Population (during 1930)—								
Under treatment Jan. 1.....	2,516	97	93	60	306	—	263	—
Admitted during year.....	61,217	2,271	1,168	381	258	—	1,693	—
Births.....	6,240	456	1,006	54	—	—	—	—
Discharges.....	64,850	2,602	2,133	458	172	—	1,673	—
Deaths.....	2,622	107	45	17	68	—	54	—
Under treatment Dec. 31.....	2,501	115	89	20	324	—	229	—
Collective stay of all patients (hosp. days).....	1,031,819	29,516	51,358	5,361	117,440	—	87,268	—
Receipts (during 1930)—								
Government and municipal grants.....	\$ 1,498,485	40	39,148	5,310	342,120	—	265,662	—
Fees of inmates.....	\$ 1,877,761	66,568	52,306	4,756	—	—	—	—
Totals, Receipts⁴.....	\$ 3,856,600	98,989	147,177	13,537	342,120	—	265,796	—
Disbursements—Maintenance (during 1930)—								
Salaries, etc.....	\$ 1,771,827	37,018	47,535	6,420	157,319	—	181,094	—
Provisions.....	\$ 848,345	24,287	28,263	2,393	96,758	—	46,129	—
Fuel, light, power and water.....	\$ 269,245	7,883	11,976	2,661	43,131	—	16,627	—
Totals, Maintenance Expenses⁴.....	\$ 3,826,269	101,268	128,025	12,975	342,120	—	265,796	—

¹ Private hospitals include private maternity, convalescent and general nursing homes.

² Include orthopaedic and paediatric.

³ Include hospitals administered by the Departments of Pensions and National Health, National Defence, etc.

⁴ Include all other receipts or expenses.

Out-Patient Departments.—Out-patient departments as here reported include those institutions where medical or surgical treatment may be obtained either gratuitously or for a nominal fee, but which do not receive resident patients.

Out-patient departments or clinics are operated independently or in connection with the hospital, medical college, university or other institution. A dispensary or clinic in connection with a hospital is generally the out-patient department of the hospital, which treats patients who do not occupy beds in the hospital. Sometimes the out-patient department is kept distinct from the hospital and is a separate institution with its own staff, etc. Frequently, however, the out-patient department is but a part of the general hospital, housed in the same building, supervised by the same officials and cared for by the hospital doctors and nurses, the expenses of its upkeep being included in the general hospital expenditures. The extension of out-patient services to patients of modest means has far-reaching and beneficial effects. It may avoid admission to a hospital, or may serve to secure necessary and beneficial hospitalization. As most hospitals keep no separate record of actual expenses attached to out-patient departments, it was not possible in this report to give the operating expenses for out-patient services as, out of one hundred and sixty-one out-patient departments reporting, only 4 p.c. gave complete financial reports. As a general rule out-patient departments are subsidized from the funds of the general hospital and until a uniform system of accounting out-patient department expenses is adopted it is not possible to make deductions as to average cost per patient.

In Table 3 will be found statistics showing the number and type of out-patient departments, the number of patients treated and the number of visits paid in 1930.

3.—Number of Out-Patient Departments by Provinces and by Type of Service together with the Number of Patients Treated and the Total Number of Visits, 1930.

Province.	Out-Patient Department.	Patients Treated, 1930.	Total Visits, 1930.	Departments Connected with Hospitals.	Departments Independent of Hospitals.	Total for General Cases.	Total for Special Cases. ²
Prince Edward Island.....	2	428	1	2	0	0	2
Nova Scotia.....	7	2,519	31,454	6	1	6	1
New Brunswick.....	4	9,113	17,336	3	1	3	1
Quebec.....	52	471,823	805,839	44	8	30	22
Ontario.....	36	285,240	500,696	35	1	24	12
Manitoba.....	15	68,470	141,589	14	1	10	5
Saskatchewan.....	12	1,502	6,568	12	0	5	7
Alberta.....	16	25,285	41,839	15	1	12	4
British Columbia.....	23	48,727	72,423	23	0	21	2
Yukon and Northwest Territories.....	3	1,785	1,785	3	0	3	0
Totals.....	170	914,892	1,619,529	157	13	114	56

¹Two out-patient departments in Prince Edward Island, 1 in Saskatchewan, 1 in Alberta and 2 in British Columbia keep no record of visits.

²Under this class are included such types of service as pre-natal clinics, chest clinics, venereal diseases clinics, gastro-intestinal clinics, orthopaedic clinics, child welfare centres and mothercraft centres.

Subsection 2.—Mental Institutions.

In Canada the majority of institutions for the insane and mentally defective are under Provincial Government control. In order to secure comparable data, seven schedules of inquiries were adopted. The questions asked were carefully planned after consultation with representatives of the Canadian National Association of Mental Hygiene and the Department of Pensions and National Health, Ottawa. Special features of the census of Mental Institutions were: (a) the separate classification of first admissions from re-admissions, because it is believed that the best available index of the incidence of mental disease in the general population

is that based on first admissions—re-admissions might be cases that were discharged as improved or unimproved and could not be considered as new cases of mental disease; (b) the classification of resident patients, first admissions, re-admissions, discharges, deaths with particular reference to mental diagnosis; (c) collection of data with respect to ex-service men, so as to indicate the influence of war service in the causation of mental disease; (d) the collection of data in respect to urban and rural residence, for, since forms of mental disease are thought to vary as between city and rural districts, it is advisable that all patients in our mental institutions should be classified under these heads; (e) the collection of data in respect to paroles, which, since the practice of granting parole is fairly general, was considered essential; (f) the collection of data relative to the administrative personnel of mental hospitals; (g) statistics regarding the values and acreages of hospital plants (although values given in some cases might be estimates, the information obtained will be of great value to those interested in the planning, development and future scope of our mental institutions).

Most of the mental hospitals in the various provinces are maintained by government and municipal grants, and information regarding the total expenditure for maintenance, cost of new buildings and additions and receipts from patients was also asked.

Apart from hospitals for the insane, a few general hospitals have special wards for the care of the insane, feeble-minded and epileptic. Homes for incurables for the aged and infirm, almshouses, refuges and orphanages also have in care numbers of harmless insane, feeble-minded and epileptic. When the results of the Census of Institutions are completely tabulated, all these data will be given in special reports which will contain more detailed information. Summary statistics for hospitals for the insane, feeble-minded and epileptic for the year 1930 are given in a concise form in Table 4.

4.—Statistics of Hospitals for Mentally Defective Persons in Canada, by Provinces, 1930.

Item.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.	Ontario.
Number of institutions.....	1	16	1	7	15
Normal capacity.....	300	1,812	650	8,645	10,457
Movement of Population—					
Inmates (beginning of year).....	266	1,410	782	8,415	10,334
First admissions.....	49	447	155	2,105	2,858
Re-admissions.....	38	76	58	461	673
Transfers from other institutions.....	—	26	—	215	206
Total Admissions.....	87	549	213	2,781	3,737
Discharges.....	61	189	103	1,367	2,125
Transfers to other institutions.....	—	60	—	107	540
Deaths.....	27	154	69	671	758
Total separations.....	88	403	172	2,145	3,423
Inmates (end of year).....	265	1,556	823	9,051	10,648
Staff—					
Doctors—					
Full time.....	2	4	2	38	49
Part time.....	2	14	1	12	8
Nurses—					
Graduate.....	5	35	—	133	154
Others.....	11	41	20	452	624
Totals, Staff.....	59	273	82	1,523	2,413
Revenue—					
Government and municipal grants.....	\$ 109,548	413,404	404,081	1,628,180	3,940,334
Fees.....	\$ 8,581	43,464	35,935	464,033	791,679
Totals, Receipts ¹	\$ 123,078	475,037	440,703	2,523,458	4,840,937
Expenditure—					
Salaries.....	\$ 31,113	165,894	53,001	624,981	2,104,446
Total maintenance.....	\$ 123,079	447,916	230,499	1,995,059	4,264,745
New building and improvements.....	\$ —	24,060	210,205	260,324	454,849
Totals, Expenditures ¹	\$ 123,079	485,011	440,703	2,526,767	4,764,434

¹Includes all other receipts and expenditures.

4.—Statistics of Hospitals for Mentally Defective Persons in Canada, by Provinces, 1930—concluded.

Item.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Canada.
Number of institutions.....	4	2	3	4	53
Normal capacity.....	2,098	2,200	1,710	2,685	30,557
Movement of Population—					
Inmates (beginning of year).....	2,113	2,069	1,508	2,552	29,449
First admissions.....	416	531	352	628	7,541
Re-admissions.....	172	116	77	97	1,768
Transfers from other institutions.....	149	60	71	5	732
Total Admissions.....	737	707	500	730	10,041
Discharges.....	388	305	241	421	5,200
Transfers to other institutions.....	154	88	72	—	1,021
Deaths.....	120	108	83	204	2,194
Total separations.....	662	501	396	625	8,415
Inmates (end of year).....	2,188	2,275	1,612	2,657	31,075
Staff—					
Doctors—					
Full time.....	15	8	11	12	141
Part time.....	1	1	1	2	42
Nurses—					
Graduate.....	63	4	26	25	445
Others.....	104	92	70	124	1,538
Totals, Staff.....	520	406	342	542	6,160
Revenue—					
Government and municipal grants.....	\$ 933,564	530,148	1,043,620	1,886,404	10,889,283
Fees.....	\$ 67,249	103,008	55,870	205,111	1,774,930
Totals, Receipts ¹	\$ 1,060,777	630,301	1,249,432	2,136,097	13,579,820
Expenditure—					
Salaries.....	\$ 253,827	117,917	491,175	373,391	4,215,745
Total maintenance.....	\$ 976,929	681,563	852,229	969,029	10,541,048
New building and improvements.....	\$ 90,819	58,738	394,214	1,146,883	2,640,092
Totals, Expenditures ¹	\$ 1,070,510	680,302	1,246,443	2,115,912	13,453,161

¹ Includes all other receipts and expenditures.

Subsection 3.—Child-Caring Institutions, Refuges for Adults, Homes for Incurables, etc.

Child-Caring Institutions.—The securing of accurate data concerning the number of dependent, neglected and delinquent¹ children in the various institutions has presented many difficulties. The multiplicity of institutions and organizations, public, private and religious, engaged in child welfare work, rendered the collection of data on a uniform basis a difficult task. A preliminary analysis of returns indicates that there is no clear division between the class of care given. In some provinces almshouses and homes for the aged and infirm accepted dependent children with or without their parents. Many institutions cared for the aged, feeble-minded, crippled, incurable and dependent children and infants. Hence the difficulty of arriving at a proper classification of institutions. Again, the dividing line between dependency and delinquency is so vague that both types are to be found in the care of organizations primarily intended for one class only. This is attributed to the fact that many institutions for dependent and neglected children accept delinquents committed to their care by the Juvenile Courts or the various children's protection societies. The main theatre of child welfare work in Canada centres in the institutions, but, owing to the rapid extension in recent years of non-institutional services in the field of child welfare, it was felt that data collected for children in institutions only, would fall short of being satisfactory, as many institutions for children, working in conjunction with the children's aid societies, place and supervise children in

¹ Juvenile delinquents as referred to here do not include delinquents under eighteen years of age sent to reformatories for infringement of the law. These are dealt with in Chapter XXVII, pp. 910-912.

foster homes and free family homes. It was therefore decided that statistics of children in foster homes, etc., under the care of the children's aid societies and juvenile immigration societies should also be obtained.

Day Nurseries.—As far as could be ascertained, 19 day nurseries were in operation in Canada on June 1, 1931. The day nursery is becoming an important factor in the field of social welfare, not only caring for children in the nurseries while the mothers are at work, but also rendering valuable service as employment agencies. As might be expected, the largest number of day nurseries are found in our two largest cities, Montreal and Toronto. Of the 19 day nurseries reporting, 1 is in the province of Nova Scotia, 7 are in the province of Quebec, 8 in Ontario, 2 in Manitoba and 1 in British Columbia. The Montreal Day Nursery has been in existence since 1888, while the Crèche D'Youville, Montreal, dates from 1754. No new day nurseries have been opened since 1920. In that year day nurseries were opened in Hamilton, Ont., and in London, Ont. Almost all day nurseries are maintained by public funds, donations and fees. The fees charged vary from 5 cents to 25 cents a day per child.

The number of days' care provided is the most reliable measure of service given in the day nursery field. It is interesting to observe that the number of children in day nurseries on June 1, 1931, corresponds closely to the average daily population for the year, which indicates that the parents utilize the day nurseries with regularity.

Nine day nurseries acted as women's employment agencies and show a total employment secured of 52,683 days with total earnings of \$114,746.

Summary statistics of institutions for the care of children are given in Table 5.

5.—Summary Statistics of Institutions and Agencies for the Care of Dependent and Neglected Children, by Provinces, June 1, 1931.

Type of Institution.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Orphanages—										
Total number of institutions....	2	9	6	39	28	13	5	3	9	114
Number reporting.....	2	9	6	39	28	13	5	3	9	114
Inmates June 1, 1931.....	125	554	484	6,011	1,756	871	222	348	537	10,908
Homes for Adults and Children—										
Total number of homes.....	—	5	10	39	13	3	—	1	3	74
Number reporting.....	—	5	10	39	13	3	—	1	3	74
Children in Homes, June 1, 1931..	—	107	227	3,139	723	95	—	122	52	4,465
Institutions for Deaf, Dumb and Blind—										
Total number of institutions.....	—	2	—	5	2	1	—	—	1	11
Number reporting.....	—	2	—	5	2	1	—	—	1	11
Inmates June 1, 1931.....	—	284	—	708	441	175	—	—	79	1,687
Day Nurseries—										
Total number of institutions.....	—	1	—	7	8	2	—	—	1	19
Number reporting.....	—	1	—	7	8	2	—	—	1	19
Children in care, June 1, 1931.....	—	30	—	1,961	382	81	—	—	59	2,513
Child-Placing Agencies and Societies—										
Total number.....	2	13	4	1	56	4	3	4	3	90
Number reporting.....	2	13	3	1	54	4	3	4	3	87
Children in care, June 1, 1931.....	102	1,336	308	228	9,680	1,744	263	151	736	14,548
Juvenile Immigration Societies for Children of British Birth—										
Total number.....	—	2	1	2	9	1	1	1	1	18
Number reporting.....	—	2	1	2	9	1	1	1	1	18
Children in care, June 1, 1931.....	—	234	293	2,293	2,986	187	130	128	63	6,314

Refuges and Homes for Adults.—The statistics given under this heading comprise all of the adult inmates in the various homes for adults in each of the provinces. These homes include hospices, houses of refuge, county and municipal homes and asylums, almshouses, poorhouses, rescue homes and houses of industry. The figures given below are not in any sense a measure of the pauperism existing in each province; the administration as between the provinces is not on a sufficiently uniform basis for that. Detailed tables will be furnished later giving the results of the special census of homes for adults undertaken in 1931.

6.—Statistics of Refuges and Homes for Adults, by Provinces, 1930, with Total Number of Inmates, June 1, 1931.

Item.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada.
Number of institutions.....	1	13	17	58	76	5	—	1	8	179
Number reporting.....	1	12	17	58	76	5	—	1	8	178
Inmate Population—										
Inmates, Jan. 1, 1930.....	70	477	558	3,189	4,972	298	—	46	353	9,963
Inmates, admitted during 1930.....	15	161	268	1,543	2,647	199	—	12	184	5,029
Inmates, left during 1930.....	4	109	171	962	2,133	114	—	16	143	3,652
Inmates, died during 1930.....	11	48	73	472	621	45	—	2	35	1,307
Inmates, Dec. 31, 1930.....	70	481	582	3,298	4,865	338	—	40	359	10,033
Inmates in institutions on June 1, 1931	62	436	605	3,355	4,864	381	—	40	368	10,111

Homes for Incurables.—Although homes for incurables supply maintenance, nursing, medical and surgical aid to persons suffering from chronic and incurable diseases, the nature of the services given is such as to call for a special tabulation. Many hospitals for incurables care not only for those suffering from incurable diseases but also for the aged and indigent, and some even take care of orphans of both sexes.

In the case of general hospitals the service given both on economic and humanitarian grounds is to restore the patient to working efficiency in the community as soon as possible. The hospital or home for incurables looks after patients whose affliction is of a more or less permanent nature incapacitating them from any possibility of earning a living. The movement of population is necessarily slow, discharges being generally due to death. The class of care given differs from that given in general hospitals, owing to the fact that the inmates tend to become institutionalized and need the care of a physician less frequently.

Table 7 gives the more important data in connection with this class of institution.

7.—Statistics of Hospitals and Homes for Incurables, by Provinces.¹

Item.	New Brunswick.	Quebec. ³	Ontario.	Saskatchewan.	Alberta.	British Columbia.	Canada. ¹
Number of institutions.....	1	19	7	2	3	1	33
Capacity.....	35	2,826	835	161	175	180	4,213
Movement of Population (1930)—							
Inmates, beginning of year.	28	2,767	719	145	134	181	3,974
Inmates, admitted.....	12	1,390	376	50	63	76	1,967
Inmates, left.....	1	1,107	124	19	32	22	1,305
Inmates, died.....	4	284	220	24	24	54	619
Inmates, end of year.....	35	2,766	751	152	141	181	4,026
Adult Population on June 1, 1931—							
Total Adults.....	35	1,975	633	152	125	175	3,095
Adults, paying full maintenance.....	13	276	248	121	5	—	663
Adults, paying part maintenance.....	10	600	41	11	—	—	662
Adults, paying nothing.....	12	1,099	344	20	120	175	1,770
Condition of Adults—							
Insane.....	—	—	—	—	—	—	—
Feeble-minded.....	—	233	51	5	14	—	303
Epileptic.....	—	148	6	2	5	5	166
Blind, deaf or dumb.....	—	298	50	9	4	14	375
Crippled.....	—	333	165	88	6	33	625
Total Staff.....	19	739	355	41	29	47	1,250
Receipts—							
Government grants and public maintenance payments.....\$	500	181,956	445,032	14,900	39,335	83,531	765,254
Fees of inmates.....\$	6,625	222,411	112,627	35,104	360	—	377,127
Tota's, Receipts².....\$	24,323	908,681	614,785	59,210	49,217	83,531	1,730,747
Expenditure—							
Salaries.....\$	5,841	122,478	206,396	13,599	10,365	27,712	386,391
Provisions.....\$	4,400	284,834	117,307	18,717	16,372	30,069	471,699
Fuel, light, power and water\$	2,413	105,400	45,063	4,213	3,336	6,000	166,425
Tota's, Expenditures².....\$	15,229	700,487	526,952	49,762	37,729	83,531	1,404,688

¹There are no hospitals nor homes for incurables in Nova Scotia, Prince Edward Island and Manitoba.²Include all other receipts or expenses.³One hospital and home for incurables in Quebec did not send in a report.

CHAPTER XXVII.—JUDICIAL AND PENITENTIARY STATISTICS.¹

Canadian Criminal Law and Procedure.—Rigidity of the system under which justice is administered in a State is never fixed nor is it expedient or scarcely possible. The judicial system must grow and adapt itself to the requirements of the people, and the exact limits of the powers of the Dominion and provincial legislative bodies have required and will still require added definition by means of decided cases.

The exclusive legislative authority of the Parliament of Canada extends to criminal law throughout the Dominion. This law is based on the common law of England, built up through the ages and consisting first of customs and usages and later of principles enunciated by generations of judges and introduced, as regards criminal law, by Royal Proclamation, 1763.

The judicial systems of the provinces as they exist to-day take their rise in the British North America Act of 1867. Sec. 91, s.s. 27 provides that, "The criminal law, except the constitution of the courts of criminal jurisdiction, but including the procedure in criminal matters extends to the exclusive legislative authority of the Parliament of Canada". In each province, (sec. 92, ss. 14), the Legislature may exclusively make laws in relation to the administration of justice in the province, including the constitution, maintenance and organization of provincial courts, both of civil and of criminal jurisdiction and including procedure in civil matters in those courts. The Parliament of Canada may, however, (sec. 101) establish any additional courts for the better administration of the laws of Canada.

It is difficult in many cases to distinguish between "Law" and "Procedure". Procedure may be interpreted to relate simply to the organic working of the courts, but in a wider sense it may also affect the rights or alter the legal relations arising out of any given facts.

The mass of statutes resulting from the fact that each province had its own criminal jurisprudence and a consequent want of knowledge of the subject caused great and increasing inconvenience. This led to the adoption of various consolidation Acts, the chief of which are the Criminal Law and Amendment Acts of 1869 and the Criminal Procedure Act of 1886. These Acts dealt exhaustively with procedure in respect of indictable and non-indictable offences, jurisdiction of justices of the peace, juvenile offenders, speedy trials, criminal law, schedules and form, etc.

In the meantime various efforts had been made in England for the reduction of the criminal law of that country into the form of a code, culminating in a draft code, submitted to the Imperial House of Commons in 1880. The question then arose as to the desirability of codifying the Canadian law. Objections were raised that codification would arrest the development of the law and its gradual adaptation to the habits and wants of the community, and would substitute a fixed, inelastic system for one which possessed the power of adjustment to circumstances. But the advantages of a codification of the law of crimes were finally so manifest that

¹ Revised by Reginald E. Watts, Chief Statistician on Criminal Statistics, Dominion Bureau of Statistics. The fifty-fourth Annual Report of Statistics of Criminal and Other Offences for the year ended Sept. 30, 1930, is obtainable, on application, from the Dominion Bureau of Statistics.

a Bill founded on the English draft code of 1880, Steven's Digest of Criminal Law, Burbridge's (of Ottawa) Digest of the Canadian Criminal Law, and on the Canadian statutory law, and introduced by Sir John Thompson, passed both Houses and became law July 1, 1893.

Crimes were formerly divided into two main classes: felonies, and misdemeanours. A felony was a crime involving forfeiture of property and of civil rights. The code has abolished this distinction and has classified the offences into indictable and non-indictable. The term "indictable" means an offence which is triable on indictment, that is to say the legal process by which a bill of indictment is preferred to, and presented by, a grand jury. An indictment differs from an information which rests only on presentation by the prosecuting authority, and properly from presentment which is an accusation originating with the grand jury. The word is sometimes loosely used, however, to include an information or presentment as both. Many cases of indictable offences are proceeded with, without a formal indictment. Furthermore certain cases triable on indictment may also be disposed of summarily by a magistrate, according to the severity or circumstances of the cases.

Non-indictable offences include cases usually dealt with summarily by police magistrates under the Summary Convictions Act, and comprise breaches of municipal regulations and other minor offences.

According to the provisions of the code indictable offences are triable by jury but in cases other than those listed below the accused is accorded the right of election whether he be tried by jury, or before a judge without the intervention of a jury, under the Speedy Trials Act, or before a magistrate under the Summary Trials Act. The jurisdiction of the magistrate is absolute, however, in certain cases and does not depend on the consent of the accused. Cases triable by jury without the consent of the accused are: treason, treasonable offences, assaults on the King, mutiny, unlawfully obtaining and communicating official information, taking oath to commit certain crimes, seditious offences, libels on foreign sovereigns, piracy, corruption of officers employed in prosecuting offenders, frauds on the Government, breach of trust of public officers, municipal corruption, selling appointments to any office, murder, attempt to murder, conspiracy to murder, accessory after the fact to murder, manslaughter, rape, attempt to commit rape, defamatory libel, combination in restraint of trade, for conspiring or attempting to commit, or being accessory after the fact to any of the above offences, also bribery or undue influence, personation or other corrupt practice under the Dominion Elections Act. Also, where an offence is punishable with imprisonment for a period exceeding five years the Attorney General may require the charge to be tried by jury.

In the province of Quebec a district magistrate has powers extending beyond those of a magistrate in any other province. He has the same jurisdiction as a county court judge in Ontario, and disposes of cases under the Speedy Trials Act, whereas the jurisdiction of the magistrates of other provinces extends only to the Summary Convictions Act and the Summary Trials Act.

Capital cases for the first twelve or fifteen years after Confederation included besides murders, death sentences for attempts at murder, piracy, burglary, violation of females and levying war. The list of capital offences is now: levying war, murder, piracy in cases of violence, rape, and treason. This is a tremendous modification of the law respecting death penalties from that which obtained a century and

half ago. In 1764, according to Blackstone, there were in England 160 capital offences on the Statute Book. It is stated that there was a strong feeling against the accompanying wholesale hangings and that judges and juries resorted to all sorts of subterfuges to evade the letter of the law. The work of practical reform and modification was slow, however, owing to the opposition of the House of Lords, but the days of general capital punishment ended with the passage of the Reform Bill, one hundred years ago, 1832, at which time forty kinds of forgery and many less serious offences were capital crimes.

The statistics as presented in the tables that follow, and which are taken from the Annual Report of Statistics of Criminal and Other Offences, are collected direct from the criminal courts in the different judicial districts throughout the Dominion. There are 159 judicial districts, including 4 sub-districts, divided as to provinces as follows: Prince Edward Island 3, Nova Scotia 18, New Brunswick 15, Quebec 25, Ontario 47, Manitoba 6, Saskatchewan 22, Alberta 14, British Columbia 8 and Yukon 1. The figures for the Northwest Territories are obtained from the reports of the Royal Canadian Mounted Police.

Section 1.—General Tables.

The statistics relate to years ended Sept. 30, the latest report being for 1930. Beginning with the report for 1922 an enlargement of the classification of offences has been adopted, by which offences of juvenile offenders are compiled separately from those of adults. The term "indictable" applies to offences of adults only, similar offences committed by juveniles being termed "major" offences; similarly, "non-indictable" offences of adults are termed "minor" offences when attributed to juveniles. All current tables have been worked out for 1922 and subsequent years in accordance with the new classification, but a comparative historical table, giving the totals for different classes of criminal offences and minor offences, including those of juvenile delinquents, is here published (Table 1), together with a more detailed table for recent years (Table 2). In the consideration of the former it should be remembered that while the criminal code undergoes little change over periods of time, the figures of summary convictions depend very much upon the changes in the customs of the people, and are apt to increase with the increasing urbanization of the population. The most significant column of Table 1 is the figure of criminal offences per 100,000 of population. Attention may be drawn to the increase in the proportion of both criminal offences and minor offences to population in the past year, convictions for criminal offences having risen from 277 per 100,000 population in 1924 to 410 per 100,000 population in 1930 and convictions or minor offences from 1,535 per 100,000 in 1924 to 3,069 per 100,000 in 1930.

It should be understood that the classification of offences in these general tables is irrespective of the mode of procedure. That is to say, the "criminal" cases include many indictable offences disposed of summarily under the Summary Trials Act. Hence any addition of indictable and major and minor offences, as shown in other tables, will not agree with the figures given in Tables 1 and 2. The object here is to show a broad historical record of criminal and minor offences respectively.

1.—Convictions for Criminal Offences, by Classes, and Total Convictions for Minor Offences, years ended Sept. 30, 1900-30, with Proportions to Population.

NOTE.—For figures for the years 1876-1899 see p. 993 of the 1930 Year Book.

Year.	Criminal Offences.							Minor Offences.			Total Criminal and Minor Offences.
	Offences against—			Other Felonies and Misdemeanours.	Total of Criminal Offences.						
	the Person.	Property with Violence.	Property without Violence.					No.			
	No.	No.	No.	No.	No.	p.c. of all offences.	per 100,000 pop. ¹	No.	p.c. of all offences.	per 100,000 pop. ¹	
1900...	4,598	413	4,571	411	9,993	24.0	188	31,661	76.0	595	41,655
1901...	4,698	451	4,441	384	9,974	23.7	184	32,174	76.3	596	42,761
1902...	4,773	413	4,541	363	10,090	23.1	182	33,446	76.9	605	43,551
1903...	5,480	543	4,944	505	11,472	22.8	202	38,911	77.2	686	50,333
1904...	5,919	552	5,295	528	12,294	22.4	211	42,652	77.6	732	54,944
1905...	5,694	656	5,711	812	12,873	20.6	215	49,686	79.4	829	62,555
1906...	6,215	645	6,425	1,078	14,363	20.3	233	56,540	79.7	916	70,906
1907...	6,651	681	6,907	807	15,046	19.0	239	64,124	81.0	1,017	79,161
1908...	7,379	893	7,973	1,069	17,314	19.5	266	71,320	80.5	1,099	88,643
1909...	6,586	848	7,771	1,332	16,537	18.4	247	73,415	81.6	1,096	89,941
1910...	7,793	943	8,191	1,131	18,058	17.5	268	84,845	82.5	1,227	102,933
1911...	8,352	977	9,024	1,194	19,547	17.3	273	93,713	82.7	1,309	113,222
1912...	9,371	1,195	10,626	1,540	22,732	15.5	309	125,795	84.5	1,686	146,553
1913...	11,444	1,472	12,721	1,724	27,361	15.8	363	145,777	84.2	1,936	173,111
1914...	12,136	1,810	14,645	1,952	30,543	16.7	397	152,492	83.3	1,982	183,000
1915...	10,664	2,234	14,269	1,525	28,692	18.7	373	124,363	81.3	1,619	153,090
1916...	9,327	1,478	11,018	1,459	23,282	18.8	289	100,509	81.2	1,251	123,797
1917...	6,852	1,321	9,886	1,271	19,330	16.9	236	94,681	83.1	1,157	114,010
1918...	7,292	2,049	10,743	1,390	21,474	17.4	258	101,795	82.6	1,222	123,277
1919...	7,731	2,606	11,508	1,656	23,501	18.1	277	106,518	81.9	1,256	130,090
1920...	8,281	2,310	11,634	2,059	24,284	14.9	281	138,424	85.1	1,604	162,708
1921...	8,197	2,609	12,059	2,081	24,946	14.2	284	152,227	85.9	1,731	177,111
1922...	7,291	2,783	11,607	2,610	24,291	15.3	271	134,049	84.7	1,498	158,333
1923...	7,550	2,076	11,482	3,075	24,183	15.1	266	135,069	84.8	1,487	159,222
1924...	7,595	2,536	12,790	2,635	25,556	15.3	277	141,663	84.7	1,535	167,222
1925...	7,826	2,749	13,892	2,644	27,111	15.3	289	150,672	84.7	1,610	177,782
1926...	7,799	2,296	14,262	2,679	27,036	13.8	287	169,171	86.2	1,803	196,222
1927...	8,343	2,671	15,154	2,809	28,977	13.1	304	191,285	86.9	2,009	220,222
1928...	9,140	2,991	16,072	3,856	32,059	11.6	332	243,123	88.4	2,517	275,111
1929...	10,392	3,529	17,271	4,001	35,193	10.9	359	286,773	89.1	2,928	321,944
1930...	11,052	4,647	18,498	6,584	40,781	11.8	410	304,860	88.2	3,069	345,644

¹Population ratios are subject to correction.

2.—Convictions for Criminal and Minor Offences, by Class of Offence, Compared to Numbers and Ratios, years ended Sept. 30, 1926-30 (Including Juveniles).

A.—NUMBERS.

Class of Offence.	1926.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	No.
Offences against the person.....	7,799	8,343	9,140	10,392	11,052
Offences against property with violence.....	2,296	2,671	2,991	3,529	4,647
Offences against property without violence.....	14,262	15,154	16,072	17,271	18,498
Other felonies and misdemeanours.....	2,679	2,809	3,856	4,001	6,584
Totals for Criminal Offences.....	27,036	28,977	32,059	35,193	40,781
Breach of municipal Acts and by-laws.....	92,184	110,532	156,758	181,199	200,222
Breach of liquor laws.....	13,512	12,487	15,279	19,339	18,498
Drunkenness.....	28,324	31,177	33,229	38,802	35,193
Vagrancy.....	6,988	7,877	8,623	11,782	11,052
Loose, idle and disorderly.....	4,675	5,649	5,556	5,044	7,799
Keeping bawdy houses and inmates thereof.....	4,006	3,206	3,003	5,350	4,001
Miscellaneous minor offences.....	19,482	20,363	20,675	25,257	26,711
Totals for Minor Offences.....	169,171	191,291	243,123	286,773	304,860
Grand Totals.....	196,207	220,268	275,182	321,966	345,641

2.—Convictions for Criminal and Minor Offences, by Class of Offence, Compared as to Numbers and Ratios, years ended Sept. 30, 1926-30 (Including Juveniles)—concluded.

B.—RATIOS PER CENT OF TOTAL AND PER 100,000 OF POPULATION.¹

Class of Offence.	1926.		1927.		1928.		1929.		1930.	
	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.	Per cent.	Per 100,000 pop.
Offences against the person.	3.9	83	3.8	88	3.3	95	3.2	106	3.2	111
Offences against property with violence.....	1.2	24	1.2	28	1.1	31	1.1	36	1.3	47
Offences against property without violence.....	7.3	151	6.9	159	5.8	166	5.3	176	5.4	186
Other felonies and misdemeanours.....	1.4	29	1.2	29	1.4	40	1.3	41	1.9	66
Totals for Criminal Offences	13.8	287	13.1	304	11.6	332	10.9	359	11.8	410
Breach of municipal Acts and by-laws.....	46.9	982	50.2	1,161	57.0	1,623	56.3	1,850	58.1	2,022
Breach of liquor laws.....	6.8	144	5.7	131	5.6	158	6.0	197	5.3	182
Drunkenness.....	14.4	302	14.2	327	12.1	344	12.0	396	10.4	360
Vagrancy.....	3.6	74	3.6	83	3.1	89	3.6	120	3.2	112
Loose, idle and disorderly.....	2.4	50	2.6	59	2.0	58	1.6	52	2.2	77
Keeping bawdy houses and inmates thereof.....	2.1	43	1.4	34	1.0	31	1.7	55	1.3	47
Miscellaneous minor offences	10.0	208	9.2	214	7.6	214	7.9	258	7.7	269
Totals for Minor Offences..	86.2	1,803	86.9	2,009	88.4	2,517	89.1	2,928	88.2	3,069
Grand Totals.....	100.0	2,090	100.0	2,313	100.0	2,849	100.0	3,287	100.0	3,479

¹Population ratios are subject to correction.

The recent trend of total convictions, including those of juveniles, and of sentences imposed, is shown by provinces for the years 1924 to 1930 in Table 3. Death sentences, which numbered 28 in 1919 and 26 in 1920, fell to 15 in 1923, rose to 22 in 1924, dropped steadily to 12 by 1927, rose again to 19 in 1928, to 26 in 1929, then dropped to 17 in 1930.

3.—Convictions and Sentences for All Offences, by Provinces, years ended Sept. 30, 1924-30.

Province.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	No.	No.	No.
Canada—							
Convictions.....	167,219	177,783	196,207	220,262	275,182	321,966	345,641
Sentences—							
Penitentiary.....	1,389	1,536	1,553	1,739	1,991	2,164	3,013
Gaol or fine.....	131,795	144,960	163,084	179,863	223,794	263,750	266,777
Reformatory.....	791	1,033	722	865	858	979	943
Death.....	22	18	15	12	19	26	17
Other sentences.....	33,222	30,236	30,833	37,783	48,520	55,047	74,891
Prince Edward Island—							
Convictions.....	257	256	365	427	716	845	975
Sentences—							
Penitentiary.....	4	1	4	4	10	6	2
Gaol or fine.....	243	202	324	405	669	814	956
Reformatory.....	—	6	—	3	—	3	6
Death.....	—	—	—	—	—	—	—
Other sentences.....	10	47	37	15	37	22	11
Nova Scotia—							
Convictions.....	3,950	3,830	4,629	5,308	5,710	7,395	7,499
Sentences—							
Penitentiary.....	67	119	131	78	158	144	118
Gaol or fine.....	3,444	2,953	3,776	4,553	4,752	6,479	6,720
Reformatory.....	3	98	94	70	59	67	65
Death.....	—	1	—	—	—	—	—
Other sentences.....	436	659	628	607	741	705	595

3.—Convictions and Sentences for All Offences, by Provinces, years ended Sept. 30, 1924-30—concluded.

Province.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	No.	No.	No.
New Brunswick—							
Convictions.....	2,723	2,766	2,713	3,080	3,617	4,589	4,790
Sentences—							
Penitentiary.....	39	54	23	25	50	57	48
Gaol or fine.....	2,559	2,305	2,412	2,628	3,095	4,091	4,180
Reformatory.....	1	23	27	47	42	39	50
Death.....	—	2	—	—	—	—	—
Other sentences.....	124	382	251	380	430	402	494
Quebec—							
Convictions.....	25,532	30,150	28,952	34,093	35,060	57,302	67,219
Sentences—							
Penitentiary.....	290	395	398	394	542	507	555
Gaol or fine.....	21,911	24,409	23,986	28,193	28,853	47,211	51,000
Reformatory.....	5	223	124	215	154	162	30
Death.....	10	3	3	4	5	9	—
Other sentences.....	3,316	5,060	4,441	5,287	5,506	9,413	14,162
Ontario—							
Convictions.....	80,948	91,107	101,263	112,364	158,338	165,829	178,730
Sentences—							
Penitentiary.....	516	515	520	659	685	596	92
Gaol or fine.....	62,385	73,260	83,348	89,602	127,140	133,534	135,211
Reformatory.....	87	470	252	303	341	451	430
Death.....	6	3	2	3	4	6	—
Other sentences.....	17,954	16,859	17,141	21,797	30,168	31,242	42,211
Manitoba—							
Convictions.....	12,349	13,605	17,100	19,626	23,210	30,100	30,141
Sentences—							
Penitentiary.....	135	142	221	133	199	291	300
Gaol or fine.....	9,763	9,749	12,185	13,645	16,016	21,684	19,560
Reformatory.....	31	134	151	144	146	151	17
Death.....	1	1	4	1	1	1	—
Other sentences.....	2,419	3,579	4,539	5,703	6,848	7,973	10,500
Saskatchewan—							
Convictions.....	8,921	9,986	10,944	10,018	11,201	13,677	14,388
Sentences—							
Penitentiary.....	50	54	48	46	45	99	11
Gaol or fine.....	8,461	9,032	9,927	8,901	9,965	12,317	12,633
Reformatory.....	—	22	11	20	27	24	4
Death.....	2	—	—	1	1	7	—
Other sentences.....	408	878	958	1,050	1,163	1,230	1,559
Alberta—							
Convictions.....	9,765	9,368	10,111	10,635	13,054	16,659	16,080
Sentences—							
Penitentiary.....	83	86	79	162	97	242	42
Gaol or fine.....	8,442	7,630	8,403	8,876	10,720	13,944	12,930
Reformatory.....	4	8	12	14	26	25	2
Death.....	1	2	—	2	2	1	—
Other sentences.....	1,235	1,642	1,617	1,581	2,209	2,447	2,600
British Columbia—							
Convictions.....	14,773	16,620	20,034	24,616	24,142	25,430	25,280
Sentences—							
Penitentiary.....	204	170	127	237	205	222	207
Gaol or fine.....	13,757	15,332	18,638	22,974	22,460	23,544	22,900
Reformatory.....	18	49	51	49	63	57	—
Death.....	2	6	6	1	6	2	—
Other sentences.....	792	1,063	1,212	1,355	1,408	1,605	1,880
The Territories—							
Convictions.....	39	95	96	95	134	140	130
Sentences—							
Penitentiary.....	1	—	2	1	—	—	—
Gaol or fine.....	33	28	91	86	124	132	—
Reformatory.....	—	—	—	—	—	—	—
Death.....	—	—	—	—	—	—	—
Other sentences.....	5	67	3	8	10	8	—

Section 2.—Indictable Offences.

The progress of a community, from the moral point of view, is often judged by the number of convictions for indictable offences, as these are less affected than non-indictable offences by extraneous circumstances and the varying methods of law enforcement in different areas and in different years. However, in the study of such statistics it is important to have comparable figures over a period

of years, and these are set out by provinces for each year since 1900 in Table 4. Again, in Table 5 are shown the number of charges and convictions and the percentage of acquittals for the 3 years ended Sept. 30, 1928-30, the figures indicating the percentage of acquittals in the latest years.

It will be noticed that during the thirty-one-year period covered by Table 4 crimes increased from 4,853 to 28,457, or 486.3 p.c. The increase in the population during the same period was but 92.5 p.c., revealing that the increase in the crime rate was more than five times that of the population.

—Convictions of Persons 16 years of age and upwards for Indictable Offences, by Provinces, years ended Sept. 30, 1900-30.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T. ¹	Total.
1900.....	21	257	109	1,279	2,260	221	—	—	447	—	259	4,853
1901.....	14	287	100	1,222	2,169	185	—	—	401	40	203	4,621
1902.....	38	368	125	1,222	2,078	185	—	—	470	47	268	4,801
1903.....	32	393	131	1,397	2,344	318	—	—	443	56	369	5,483
1904.....	26	368	108	1,614	2,645	408	—	—	365	51	472	6,057
1905.....	35	342	110	1,861	2,805	534	—	—	574	39	524	6,824
1906.....	21	269	118	1,819	3,145	668	—	—	533	44	693	7,310
1907.....	9	402	147	1,827	3,392	773	587	395	532	42	—	8,106
1908.....	10	535	202	2,194	4,371	715	637	591	840	26	—	10,130
1909.....	18	463	156	2,136	4,524	784	737	645	799	37	—	10,299
1910.....	31	684	164	1,810	4,539	744	896	709	727	23	—	10,327
1911.....	19	356	123	1,865	5,067	888	957	870	1,015	24	4	11,188
1912.....	11	657	107	2,052	5,456	1,121	1,204	1,513	1,532	26	7	13,686
1913.....	8	598	140	2,336	6,272	1,331	1,594	1,908	1,794	26	—	16,007
1914.....	18	669	179	2,918	7,479	1,284	1,889	2,235	2,112	27	—	18,810
1915.....	12	840	206	2,427	7,112	1,362	1,993	2,082	1,517	24	—	17,575
1916.....	11	519	241	3,166	6,023	914	1,711	1,895	1,503	20	—	16,003
1917.....	21	427	228	2,667	4,824	755	1,057	894	1,058	22	—	11,953
1918.....	12	563	230	2,916	6,111	811	1,067	886	659	11	—	13,266
1919.....	14	663	241	2,960	6,605	919	1,134	1,028	951	5	—	14,520
1920.....	4	580	375	2,517	6,707	987	1,467	1,233	1,212	6	—	15,088
1921.....	15	712	313	2,654	7,548	1,159	1,220	1,263	1,282	3	—	16,169
1922.....	27	701	322	2,885	7,021	1,188	1,391	1,171	1,004	10	—	15,720
1923.....	13	400	148	2,655	6,886	1,094	1,446	1,424	1,116	6	—	15,188
1924.....	25	595	224	2,729	7,180	1,160	1,647	1,423	1,265	10	—	16,258
1925.....	3	624	244	3,084	7,751	1,215	1,654	1,254	1,385	2	3	17,219
1926.....	14	752	222	3,053	7,248	1,383	2,052	1,463	1,252	3	6	17,448
1927.....	14	680	287	3,621	7,962	1,457	1,492	1,483	1,833	3	4	18,836
1928.....	43	891	365	4,299	9,052	1,672	1,761	1,701	1,931	5	—	21,720
1929.....	55	869	358	4,780	9,489	1,988	1,918	2,201	2,425	8	6	24,097
1930.....	59	875	354	5,540	11,774	2,272	2,355	2,525	2,694	6	3	28,457

¹ The decline after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

—Charges, Convictions and Percentages of Acquittals for Indictable Offences, by Provinces, years ended Sept. 30, 1928-30.

NOTE.—The figures of this table do not include charges or convictions of juvenile delinquents.

Province.	1928.			1929.			1930.		
	Charges.	Convictions.	Acquittals.	Charges.	Convictions.	Acquittals.	Charges.	Convictions.	Acquittals.
	No.	No.	p.c.	No.	No.	p.c.	No.	No.	p.c.
Prince Edward Island.....	56	43	23.2	68	55	19.1	63	59	22.2
Nova Scotia.....	1,256	891	29.0	1,283	869	32.3	1,279	875	31.6
New Brunswick.....	443	365	17.6	448	358	20.1	441	354	18.9
Quebec.....	5,469	4,299	21.4	5,919	4,780	23.1	7,407	5,540	25.2
Ontario.....	11,396	9,052	20.6	11,935	9,489	20.5	14,218	11,774	17.2
Manitoba.....	1,902	1,672	12.1	2,281	1,988	12.9	2,585	2,272	12.1
Saskatchewan.....	1,941	1,761	9.3	2,117	1,918	9.4	2,615	2,355	10.0
Alberta.....	1,967	1,701	13.5	2,638	2,201	16.6	2,983	2,525	15.3
British Columbia.....	2,257	1,931	14.4	2,862	2,425	15.2	3,146	2,694	14.3
The Territories.....	6	5	16.7	21	14	33.3	11	9	18.2
Totals.....	26,693	21,720	14.9	29,572	24,097	18.5	34,751	28,457	18.1

Classes of Indictable Offences.—Indictable offences are divided under the Canadian system into six main classes, as follows: offences against the person, offences against property with violence, offences against property without violence, malicious offences against property, forgery and other offences against the currency, and other indictable offences. Convictions in all classes show an increase between 1928 and 1930. Details by offences are given in Table 6 and the details of the disposition of the charges in Table 7, which shows, among other information, that convictions of females numbered 2,660 in 1930 as against 2,637 in 1929, 2,200 in 1928, 2,013 in 1927, and only 1,826 as recently as 1924. Details as to occupation, conjugal condition, educational status, ages, use of liquors, birthplace, religion and residence of those convicted of indictable offences are given in Table 8.

6.—Indictable Offences, by Classes, years ended Sept. 30, 1928-30.

NOTE.—The figures of this table do not include charges or convictions of juvenile delinquents.

Class and Offence.	1928.		1929.		1930.	
	Charges.	Convictions.	Charges.	Convictions.	Charges.	Convictions.
CLASS I.—OFFENCES AGAINST THE PERSON.	No.	No.	No.	No.	No.	No.
Murder.....	42	19	50	26	54	1
Murder, attempt to commit.....	21	18	20	12	28	1
Manslaughter.....	95	35	111	59	130	5
Abortion and concealing birth of infants..	33	21	25	16	42	2
Rape and other crimes against decency..	698	439	681	402	741	45
Procuration.....	59	30	56	34	51	3
Bigamy.....	65	52	52	40	55	5
Shooting, stabbing and wounding.....	298	189	135	143	266	18
Assault on females and assault on wife...	206	158	221	182	256	23
Aggravated assault.....	895	640	1,273	892	1,340	91
Assault on police officer.....	465	433	611	557	589	53
Assault and battery.....	1,576	1,283	1,669	1,310	1,780	1,35
Refusal to support family.....	295	220	318	193	396	26
Wife desertion.....	18	15	24	19	9	
Causing injury by fast driving.....	87	52	111	62	114	7
Various other offences against the person	101	74	103	68	167	11
Totals.....	4,954	3,678	5,510	4,015	6,018	4,31
CLASS II.—OFFENCES AGAINST PROPERTY WITH VIOLENCE.						
Burglary, house, warehouse, and shop-breaking.....	2,175	1,948	2,526	2,298	3,575	3,20
Robbery and demanding with menaces..	325	219	360	255	569	4
Totals.....	2,500	2,167	2,886	2,553	4,144	3,69
CLASS III.—OFFENCES AGAINST PROPERTY WITHOUT VIOLENCE.						
Bringing stolen goods into Canada.....	5	4	3	3	2	
Embezzlement.....	9	8	12	8	11	
False pretences.....	1,599	1,294	1,799	1,513	2,481	2,00
Feloniously receiving stolen goods.....	596	398	593	383	745	53
Fraud and conspiracy to defraud.....	979	737	879	592	880	64
Horse, cattle and sheep stealing.....	61	48	76	60	123	
Theft.....	9,479	7,870	10,391	8,777	12,405	10,5
Theft of mail.....	23	19	31	28	32	
Theft of automobile.....	735	638	884	774	919	8
Totals.....	13,486	11,016	14,668	12,138	17,598	14,7
CLASS IV.—MALICIOUS OFFENCES AGAINST PROPERTY.						
Arson.....	79	33	81	34	86	
Malicious injury to horses and cattle, and other wilful damage to property.....	369	282	429	347	501	3
Totals.....	448	315	510	381	587	4

6.—Indictable Offences, by Classes, years ended Sept. 30, 1928-30—concluded.

Class and Offence.	1928.		1929.		1930.	
	Charges.	Convictions.	Charges.	Convictions.	Charges.	Convictions.
	No.	No.	No.	No.	No.	No.
CLASS V.—FORGERY AND OTHER OFFENCES AGAINST THE CURRENCY.						
Offences against the currency.....	6	5	6	4	16	8
Forgery and uttering forged documents..	627	549	790	720	1,092	1,001
Totals.....	633	554	796	724	1,108	1,009
CLASS VI.—OTHER OFFENCES NOT INCLUDED IN THE FOREGOING CLASSES.						
Breach of the Trade Marks Act.....	26	26	24	23	37	36
Attempt to commit suicide.....	99	74	136	97	203	153
Carrying unlawful weapons.....	131	112	157	136	163	147
Criminal negligence.....	151	65	177	71	200	90
Conspiracy.....	100	49	87	52	99	65
Indecent exposure and other offences against public morals.....	75	69	141	128	111	96
Intimidation.....	32	25	59	35	54	25
Keeping bawdy houses and inmates thereof.....	918	844	1,471	1,130	1,281	923
Offences against Gambling and Lottery Acts.....	1,524	1,403	1,513	1,387	1,560	1,403
Offences against Opium and Narcotics Drug Act ¹	339	302	270	220	268	217
Offences against revenue laws.....	330	240	257	213	234	186
Illicit stills.....	312	291	290	280	361	345
Perjury and subornation of perjury.....	139	70	110	70	148	75
Prison breach and escape from prison....	166	155	211	206	174	153
Riot and affray.....	119	103	162	136	201	169
Sodomy and bestiality.....	91	69	92	71	117	101
Various other misdemeanours.....	120	93	45	31	85	56
Totals.....	4,672	3,990	5,202	4,286	5,296	4,240
Grand Totals.....	26,693	21,720	29,572	24,097	34,751	28,457

¹ See also summary convictions.

7.—Charges, Acquittals, Convictions and Sentences in respect of Indictable Offences, years ended Sept. 30, 1924-30.

NOTE.—Juvenile delinquencies not included in these statistics.

Item.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	No.	No.	No.
Charges.....	20,667	21,685	21,976	23,563	26,693	29,572	34,751
Acquittals ¹	4,389	4,441	4,510	4,685	4,970	5,432	6,246
Persons detained for lunacy.....	20	26	18	42	33	43	48
Convictions.....	16,258	17,219	17,448	18,836	21,720	24,097	28,457
Males.....	14,432	15,184	15,393	16,823	19,520	21,460	25,797
Females.....	1,826	2,035	2,055	2,013	2,200	2,637	2,660
First conviction.....	13,109	14,172	14,286	14,761	17,314	18,638	21,319
Second conviction.....	1,349	1,345	1,365	1,632	1,955	2,396	3,051
Reiterated conviction.....	1,820	1,702	1,797	2,443	2,451	3,063	4,087
Sentences—							
Option of a fine.....	5,142	4,712	5,469	5,606	6,719	7,050	7,473
Under one year in gaol.....	3,702	4,385	4,612	5,016	5,737	5,966	7,474
One year and over in gaol.....	1,461	1,336	1,309	1,456	1,668	1,715	2,502
Indeterminate.....	—	—	—	—	—	457	115
Two years and under five in penitentiary.....	1,054	1,244	1,198	1,370	1,622	1,781	2,501
Five years and over in penitentiary.....	330	278	351	364	362	374	508
For life in penitentiary.....	5	14	4	5	7	9	4
Death.....	22	18	15	12	19	26	17
Committed to reformatories.....	149	370	172	195	227	319	224
Other sentences.....	4,393	4,862	4,318	4,812	5,359	6,400	7,639

¹ Include cases where proceedings were stayed, jury disagreed, etc.

8.—Occupations, etc., of Persons Convicted of Indictable Offences, years ended Sept. 30, 1924-30.

NOTE.—Juvenile delinquents not included.

Item.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	No.	No.	No.	No.	No.	No.	No.
Occupation—							
Agriculture.....	893	951	919	1,014	1,320	1,509	1,509
Lumbering.....	23	63	68	112	60	88	115
Fishing.....	20	71	56	61	96	66	77
Mining.....	29	162	168	169	179	205	289
Manufacturing and construction.....	1,235	1,316	1,485	1,786	1,903	2,298	3,070
Transportation.....	668	522	735	647	673	765	900
Trade.....	1,503	1,802	2,258	2,236	2,822	2,807	3,253
Service.....	1,725	1,766	1,250	1,916	2,302	3,030	3,434
Professional.....	79	96	84	95	137	222	342
Labourers.....	4,911	5,425	5,161	6,058	7,070	7,853	9,974
Not given.....	5,172	5,045	5,264	4,742	5,158	5,444	5,422
Totals.....	16,258	17,219	17,448	18,836	21,720	24,097	28,457
Conjugal condition—							
Married.....	5,284	5,777	5,928	6,559	7,886	8,220	9,527
Single.....	7,596	8,445	7,712	9,321	10,054	11,997	15,332
Widowed.....	228	263	198	247	374	336	371
Divorced.....	—	—	—	—	—	2	7
Not given.....	3,150	2,734	3,610	2,709	3,406	3,542	3,100
Educational status—							
Unable to read or write.....	446	528	494	641	533	632	711
Elementary.....	13,279	13,506	13,066	15,278	17,301	19,290	23,819
Superior.....	199	201	163	215	268	479	482
Not given.....	2,334	2,984	3,725	2,702	3,618	3,696	3,445
Age—							
16 years and under 21.....	3,103	3,464	3,192	3,760	4,231	5,909	6,458
21 years and under 40.....	7,631	8,238	7,753	9,011	9,640	12,799	14,343
40 years and over.....	2,535	2,544	2,845	3,110	3,760	4,481	4,901
Not given.....	2,989	2,973	3,658	2,955	3,089	918	2,760
Use of liquors—							
Moderate.....	9,013	9,518	9,121	10,848	11,629	12,919	17,305
Immoderate.....	944	1,330	1,158	1,399	1,952	1,914	2,167
Not given.....	6,301	6,371	7,169	6,589	8,139	9,264	8,985
Birthplace—							
England and Wales.....	1,308	1,310	1,230	1,335	1,496	1,916	2,245
Ireland.....	207	256	231	235	300	322	432
Scotland.....	440	389	427	554	638	645	764
Canada.....	8,384	9,494	9,237	10,710	12,367	13,930	17,265
Other British possessions.....	100	85	81	136	72	99	165
United States.....	767	789	711	844	987	1,129	1,094
Other foreign countries.....	1,738	1,897	1,962	2,185	2,671	2,926	3,486
Not given.....	3,314	2,999	3,569	2,837	3,189	3,130	3,016
Religion—							
Baptist.....	319	435	262	381	509	501	710
Roman Catholic.....	4,171	5,057	5,437	5,977	6,938	7,784	9,804
Church of England.....	2,123	2,429	2,243	2,392	2,327	2,889	3,210
Methodist.....	1,101	1,100	786	889 ¹	573 ¹	630 ¹	578 ³
Presbyterian.....	1,565	1,752	1,471	1,555	1,727	2,084	2,383
United Church.....	—	—	284	530	821	1,129	1,956
Other Protestant.....	1,388	1,596	1,706	2,044	3,007	3,675	3,382
Jewish.....	408	354	422	433	592	470	490
Other denominations.....	857	899	999	1,161	1,123	1,237	2,344
Not given.....	4,326	3,597	3,838	3,474	3,894	3,698	3,583
Residence—							
Cities and towns.....	12,806	13,917	14,323	15,393	17,563	18,717	21,986
Rural districts.....	2,762	2,941	2,938	2,816	3,893	5,118	6,366
Not given.....	690	361	189	627	264	262	107

¹Notwithstanding the fact that the United Church of Canada was completely organized in 1926 these persons reported themselves as Methodists.

Section 3.—Summary Convictions.

The following statistics relate to "non-indictable" offences committed by adults (persons 16 years of age or over) and disposed of by police magistrates or other justices of the peace, under authority of the Summary Convictions Act. Such convictions numbered 308,759 during the year ended Sept. 30, 1930, as compared with 290,043 in 1929, 245,763 in 1928, 193,240 in 1927 and 169,913 in 1926. This increase is due almost entirely to breaches of traffic regulations, which have

risen from 78,027 in 1926 to 185,584 in 1930, or from 46 p.c. to 60 p.c. of the total convictions. By sexes the summary convictions appear as follows: in 1926, males 159,528, females 10,385; in 1927, males 182,392, females 10,848; in 1928, males 232,554, females 13,209; in 1929, males 274,977, females 15,066; in 1930, males 292,557, females 16,202.

Summary convictions are given by provinces from 1900 to 1930 in Table 9, and details of these offences are given for the four latest years in Table 10.

9.—Summary Convictions, by Provinces, years ended Sept. 30, 1900-30.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T. ¹	Total.
1900.....	402	2,270	2,174	8,430	15,650	1,423	-	-	2,505	1,877	1,154	35,885
1901.....	321	2,648	2,165	7,994	16,268	2,018	-	-	2,714	1,259	1,223	36,510
1902.....	311	3,459	2,220	7,941	16,892	2,049	-	-	2,990	947	1,067	37,876
1903.....	400	4,462	2,278	8,268	19,112	2,682	-	-	3,086	922	2,652	43,862
1904.....	421	3,819	2,624	9,662	19,783	4,890	-	-	2,869	543	3,581	48,192
1905.....	331	4,234	2,480	11,733	21,634	6,789	-	-	2,874	377	4,483	54,935
1906.....	212	4,763	2,560	12,511	24,046	8,471	-	-	3,386	352	6,510	62,811
1907.....	222	4,659	2,821	13,283	26,520	8,671	4,729	4,077	4,766	312	-	70,060
1908.....	278	4,562	2,717	16,094	29,858	7,794	4,536	5,521	5,684	244	-	77,288
1909.....	277	4,348	2,449	16,491	31,423	8,279	4,375	6,181	4,415	256	9	78,503
1910.....	336	5,338	2,382	16,452	36,028	9,271	6,340	8,754	6,070	215	17	91,203
1911.....	375	5,306	2,766	17,729	34,871	12,366	7,317	9,350	10,380	145	28	100,633
1912.....	437	5,920	3,022	24,335	42,104	13,985	9,184	15,254	16,472	163	84	130,960
1913.....	443	6,353	3,136	29,714	51,396	16,513	11,711	17,513	17,882	157	-	154,818
1914.....	498	6,613	2,872	30,563	56,874	14,840	11,854	16,806	20,481	193	-	161,597
1915.....	346	5,774	2,833	24,152	49,942	11,266	9,650	12,331	15,993	146	-	132,430
1916.....	405	5,924	2,664	20,767	41,732	7,826	9,237	9,526	6,344	156	-	104,631
1917.....	323	4,700	2,564	22,560	42,655	7,065	6,007	5,726	6,768	84	-	98,452
1918.....	209	4,794	1,611	25,374	46,443	7,298	6,536	6,744	6,821	64	-	105,899
1919.....	236	5,533	2,447	30,881	44,587	8,128	6,180	5,961	7,638	32	-	111,623
1920.....	340	5,790	3,405	40,801	55,049	11,093	6,523	7,219	13,996	49	-	144,265
1921.....	373	4,639	2,680	45,042	63,874	9,563	6,137	8,571	14,460	37	-	155,376
1922.....	309	3,332	2,281	31,441	63,015	9,530	6,876	7,766	11,720	52	-	136,322
1923.....	321	3,033	2,179	27,563	64,639	11,377	8,346	8,359	11,639	37	-	137,493
1924.....	232	3,355	2,499	22,803	73,768	11,189	7,274	8,342	13,508	29	-	142,999
1925.....	235	2,790	2,417	25,364	79,470	10,724	8,020	7,840	14,875	29	61	151,825
1926.....	345	3,568	2,418	24,428	90,061	13,913	8,614	8,142	18,337	45	42	169,913
1927.....	392	4,362	2,565	28,732	101,345	16,420	8,243	8,801	22,292	52	34	193,240
1928.....	662	4,499	3,031	29,302	146,586	19,921	9,108	10,927	21,598	72	57	245,763
1929.....	783	6,231	4,032	51,099	153,385	26,536	11,413	13,939	22,499	94	32	290,043
1930.....	906	6,299	4,072	60,098	163,913	26,879	11,574	12,904	21,989	86	39	308,759

¹The decline after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

10.—Summary Convictions, by Offences, years ended Sept. 30, 1927-30.

Offence.	1927.	1928.	1929.	1930.	Increase or Decrease 1929-30.
Assault.....	3,436	3,499	4,146	4,177	+ 31
Carrying firearms and unlawful weapons..	386	383	564	535	- 29
Contempt of court.....	32	28	21	26	+ 5
Cruelty to animals.....	545	474	390	320	- 60
Disturbing religious and like meetings.....	25	28	38	43	+ 5
Fishery and Game Acts, offences against.....	1,245	1,599	1,858	2,540	+ 682
Gambling Acts, offences against.....	5,858	5,923	8,244	6,565	- 1,679
Immigration Act, offences against.....	61	40	51	58	+ 7
Inspection and Sales Act, offences against	227	198	191	873	+ 682
Adulteration of Food (Food and Drugs Acts).....	240	221	198	172	+ 26
Weights and Measures Acts, offences against.....	82	87	162	176	+ 10
Liquor, Prohibition and Temperance Acts, offences against.....	12,477	15,263	19,327	18,132	- 195
Malicious or willful damage to property..	807	782	896	1,009	+ 113
Masters' and Servants' Acts, offences against.....	210	244	321	235	+ 14
Non-payment of wages.....	1,231	882	1,484	1,677	+ 193
Municipal Acts and by-laws, breaches of various.....	109,777	156,057	180,508	200,209	+19,601
Non-support of family and neglecting children.....	1,192	1,486	1,708	2,098	+ 390

10.—Summary Convictions, by Offences, years ended Sept. 30, 1927-30—concluded

Offence.	1927.	1928.	1929.	1930.	Increase or Decrease 1929-30.
Contributing to delinquency of children..	1,002	608	720	801	+
Opium and Narcotic Drug Act, various offences against.....	491	304 ¹	396 ¹	242	—
Profanation of the Lord's Day.....	824	1,115	635	944	+
Railway Acts, various offences against...	775	917	1,031	1,284	+
Trespass on railway.....	925	1,062	1,283	1,332	+
Stealing ride on railway.....	929	633	944	1,638	+
Revenue laws, offences against.....	804	1,069	1,688	1,647	—
Trespass.....	593	604	858	989	+
Vagrancy.....	7,701	8,502	11,648	11,161	—
Drunkenness.....	31,171	33,224	38,826	35,789	—
Insulting, abusive and profane language...	629	568	320	578	+
Frequenting bawdy houses.....	2,397	2,162	4,220	3,727	—
Loose, idle, disorderly conduct and dis- turbance the peace.....	5,444	5,490	4,697	7,510	+
Various other offences.....	1,724	2,311	2,690	2,272	—
Totals.....	193,240	245,763	290,043	308,759	+18,716

¹Not including 302 convictions in 1928 and 220 in 1929, for selling and possessing drugs, which appear in the indictable offences.

Convictions for Drunkenness.—The number of summary convictions for drunkenness in Canada in 1930 was 35,789 as compared with 38,826 in 1929, 33,224 in 1928 and 31,171 in 1927, a decrease of 3,037 in 1930 from the figures of 1929. Maximum figures were attained in the years 1913 and 1914; during the war there was an appreciable reduction and since the war, while figures have fluctuated they have not approximated former high levels. Table 11 shows the number of convictions by provinces and years from 1900 to 1930.

11.—Convictions for Drunkenness, by Provinces, years ended Sept. 30, 1900-30.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T. ¹	Total.
1900.....	327	1,255	1,288	3,209	3,370	776	—	—	1,227	341	422	12,211
1901.....	241	1,387	1,299	2,973	3,900	834	—	—	1,232	370	491	12,722
1902.....	230	2,012	1,403	2,783	3,944	1,003	—	—	1,192	371	386	13,322
1903.....	274	2,726	1,458	2,931	5,043	1,466	—	—	1,356	337	941	16,533
1904.....	288	2,344	1,676	3,986	5,465	2,505	—	—	1,288	242	1,101	18,891
1905.....	172	2,529	1,734	4,781	6,047	3,544	—	—	1,284	185	1,345	21,623
1906.....	120	2,919	1,843	4,802	7,459	3,905	—	—	1,697	111	2,254	25,111
1907.....	144	2,975	2,018	5,503	8,959	4,602	1,741	1,459	2,293	108	—	29,801
1908.....	184	2,800	1,881	6,843	9,417	3,639	1,318	1,990	2,900	117	—	31,081
1909.....	160	2,689	1,694	6,956	10,035	3,590	1,334	2,214	2,314	117	2	31,110
1910.....	183	3,131	1,562	5,557	10,717	4,289	1,885	3,543	3,085	115	1	34,001
1911.....	238	3,149	1,944	6,805	11,347	5,832	2,359	4,041	5,594	63	7	41,377
1912.....	309	3,693	2,116	9,863	12,785	6,925	2,462	6,657	8,275	72	14	53,172
1913.....	324	3,955	2,073	12,265	16,236	7,493	2,970	7,283	8,316	60	—	60,976
1914.....	342	3,999	1,765	12,776	17,703	6,193	2,142	5,710	9,376	61	—	60,001
1915.....	231	3,436	1,694	8,939	12,553	4,154	1,332	2,802	5,960	60	—	41,141
1916.....	219	3,614	1,696	7,108	11,728	3,114	1,062	1,809	2,327	53	—	32,753
1917.....	207	2,546	1,516	8,025	10,945	1,085	770	391	2,372	25	—	27,881
1918.....	96	2,435	704	6,680	7,932	1,123	434	825	778	19	—	21,051
1919.....	116	2,879	1,350	7,116	8,498	1,570	618	1,057	1,004	9	—	24,221
1920.....	120	3,140	1,882	11,863	15,021	2,330	919	1,536	2,948	10	—	39,761
1921.....	144	2,156	1,264	9,944	14,498	1,429	708	1,838	2,379	2	—	34,301
1922.....	162	1,492	1,088	7,103	10,063	1,623	816	1,608	1,081	12	—	25,011
1923.....	164	1,392	1,074	6,260	11,370	1,680	884	1,277	1,443	21	—	25,561
1924.....	94	1,456	1,176	6,146	12,993	1,948	505	1,464	1,545	11	—	27,331
1925.....	112	1,466	1,171	6,342	11,811	1,948	668	1,374	1,844	9	6	26,771
1926.....	168	1,898	1,234	5,364	13,752	1,871	487	1,413	2,114	6	10	28,311
1927.....	182	2,053	1,397	7,000	14,334	1,889	618	1,182	2,496	26	—	31,171
1928.....	263	2,176	1,285	6,362	15,931	1,863	1,014	1,538	2,758	34	—	33,224
1929.....	400	3,284	1,814	8,328	17,620	1,830	794	1,810	2,898	42	—	38,826
1930.....	393	3,236	1,706	7,649	15,970	1,392	674	1,551	3,183	35	—	35,789

¹ The decline after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

Offences against the Liquor Acts.—Up till the Great War, alcoholic liquors were generally sold under specified conditions by licensed hotels or licensed shops. Offences against the Liquor Acts usually represented a breach of the conditions of sale. During the War prohibition was generally established but in more recent years the tendency has been for the Provincial Governments to take over the sale of liquor, to manage this sale by commissions and derive a revenue therefrom. Eight of the nine provinces now have their liquor commissions, Prince Edward Island being the only province in which prohibition prevails. In these circumstances, the convictions for offences against the Liquor Acts in 1929 reached the highest figure on record, *viz.*, 19,327, but fell off by more than a thousand convictions, to 18,132, in 1930. The number of such convictions in each year since 1900 is given by provinces in Table 12.

12.—Convictions for Offences against the Liquor Acts, years ended Sept. 30, 1900-30.

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T. ¹	Total.
1900.....	9	153	301	458	749	34	—	—	115	25	98	1,942
1901.....	17	167	329	457	820	60	—	—	156	83	141	2,230
1902.....	38	207	302	600	784	50	—	—	261	37	87	2,366
1903.....	50	422	294	660	1,051	76	—	—	169	72	237	3,031
1904.....	59	371	375	583	1,028	122	—	—	133	47	300	3,018
1905.....	74	446	327	858	861	85	—	—	254	45	325	3,275
1906.....	37	540	309	858	877	51	—	—	240	21	314	3,247
1907.....	23	490	395	706	1,016	33	219	193	382	41	—	3,498
1908.....	43	384	372	864	1,140	75	121	267	274	39	—	3,579
1909.....	38	410	353	710	1,644	41	164	250	348	35	6	3,999
1910.....	40	494	367	893	1,701	46	248	396	436	30	14	4,665
1911.....	38	592	278	1,032	1,759	46	240	423	318	33	16	4,775
1912.....	36	551	361	859	2,117	85	366	605	625	40	26	5,671
1913.....	26	502	447	791	2,167	166	528	560	741	41	—	5,969
1914.....	72	660	365	882	2,328	166	404	551	394	49	—	5,871
1915.....	42	633	390	1,021	2,018	124	378	573	246	27	—	5,452
1916.....	75	646	352	1,015	2,002	172	967	713	295	11	—	6,248
1917.....	36	449	314	1,076	2,927	289	774	885	576	15	—	7,339
1918.....	42	412	288	1,155	3,410	230	422	678	812	23	—	7,472
1919.....	37	479	387	1,479	3,353	175	434	436	597	6	—	7,383
1920.....	23	394	585	1,975	4,385	380	452	618	1,427	8	—	10,247
1921.....	44	362	419	1,384	4,938	427	583	907	1,394	2	—	10,460
1922.....	28	267	366	954	3,246	392	708	1,043	1,503	12	—	8,519
1923.....	39	264	364	1,724	3,958	542	997	990	1,196	14	—	10,088
1924.....	29	293	375	1,549	4,678	452	966	817	1,286	4	—	10,449
1925.....	51	235	319	1,919	5,047	512	1,078	758	1,699	9	9	11,636
1926.....	53	499	393	2,104	6,362	786	1,231	737	1,345	2	—	13,512
1927.....	66	610	271	2,025	5,620	627	1,245	814	1,186	13	—	12,477
1928.....	69	688	478	2,096	7,812	598	1,174	944	1,350	22	32	15,263
1929.....	81	804	486	3,392	9,034	1,399	1,542	1,017	1,556	8	8	19,327
1930.....	98	532	469	3,043	8,995	1,180	1,392	970	1,432	14	7	18,132

¹The decline after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

Breaches of Traffic Regulations.—Convictions for breaches of traffic regulations, which at the beginning of the century numbered only 185 in all Canada (Table 13), have, as a result of the advent of the motor vehicle, become the largest element in the non-indictable offences, numbering in 1930, 185,584 out of a total of 308,759, or about 60 p.c. of the total.

13.—Convictions for Breaches of Traffic Regulations, years ended Sept. 30, 1900-30

Year.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon.	N.W.T. ¹	Total
1900.....	2	21	7	31	94	5	—	—	17	—	8	157
1901.....	3	12	2	5	128	22	—	—	9	—	4	173
1902.....	6	38	9	5	278	24	—	—	6	17	4	384
1903.....	1	47	22	40	314	53	—	—	43	8	12	500
1904.....	1	25	14	10	431	142	—	—	68	—	13	707
1905.....	18	47	9	40	431	360	—	—	53	2	97	1,040
1906.....	—	16	10	226	190	603	—	—	91	—	40	1,116
1907.....	—	27	7	53	239	290	21	28	135	—	—	884
1908.....	2	17	13	55	509	176	18	27	453	—	—	1,223
1909.....	11	19	5	64	1,929	469	25	21	283	—	—	2,836
1910.....	15	38	10	131	3,515	1,161	28	137	436	—	—	5,448
1911.....	19	86	17	267	3,376	1,116	96	139	661	—	—	5,771
1912.....	8	97	24	1,806	5,928	1,778	215	838	1,768	—	—	12,444
1913.....	9	83	5	3,373	6,697	3,030	248	672	1,883	—	—	16,040
1914.....	7	176	69	2,643	4,717	2,419	410	754	2,051	—	—	13,222
1915.....	6	62	101	1,509	4,494	1,865	204	503	1,804	1	—	10,535
1916.....	7	228	57	2,146	5,577	1,043	321	380	615	7	—	10,333
1917.....	13	324	54	1,677	9,854	2,619	441	533	813	10	—	16,333
1918.....	17	523	80	3,505	12,206	2,700	418	736	995	1	—	21,111
1919.....	15	509	62	4,971	13,374	3,123	863	701	1,677	1	—	25,227
1920.....	129	600	49	11,499	19,708	4,987	744	1,673	3,780	1	—	43,111
1921.....	109	443	87	12,335	26,860	4,995	700	1,845	4,412	2	—	51,788
1922.....	38	289	315	3,344	31,813	4,968	1,112	1,996	4,101	1	—	47,990
1923.....	36	397	196	1,746	33,402	6,182	1,246	2,514	4,095	1	—	49,831
1924.....	49	350	237	3,818	40,530	6,412	1,282	2,301	5,084	—	—	60,000
1925.....	27	200	281	4,976	44,618	5,971	1,375	1,940	4,389	1	—	63,770
1926.....	64	263	180	5,534	52,727	8,588	1,730	2,059	6,882	—	—	78,000
1927.....	69	402	244	6,418	62,037	10,871	1,610	2,459	12,268	2	—	96,333
1928.....	228	462	516	6,273	101,356	14,099	2,100	3,481	12,976	2	—	141,444
1929.....	152	863	887	19,427	105,703	19,460	3,643	5,612	10,592	2	1	166,333
1930.....	212	831	757	28,633	115,073	20,672	3,727	4,903	10,776	—	—	185,533

¹ The decline after 1906 is due to the formation of the provinces of Saskatchewan and Alberta out of parts of the Northwest Territories.

The greatest percentage increases were made between 1908 and 1913. In this 5-year period total convictions increased from 1,270 to 16,000. For three years thereafter there was an abrupt decline, but beginning with 1917 another 5-year series of increases brought the total up to 51,788; by 1924 the 60,000 mark had been reached, and the latest six years have witnessed a rapid and steady increase to the 1930 figures. The provincial distribution of the totals indicates that for the last five years Quebec shows the largest percentage increase, although, of course, Ontario has the largest absolute increase. For the latest year Ontario, which had 45 p.c. of the registrations of motor vehicles in Canada (see p. 568), had 62 p.c. of the total convictions; Quebec in the same year had 14 p.c. of the motor vehicles and 15 p.c. of the convictions. In interpreting the figures in this way, however, it should be pointed out that traffic regulations are by no means uniform throughout Canada and no account is taken of the differences in the degree of urbanization of the two provinces.

Section 4.—Juvenile Delinquency.

Juveniles under 16 years of age to the number of 8,425 were found guilty of various offences in the year ended Sept. 30, 1930, as compared with 7,826 in 1929, 7,699 in 1928, 8,185 in 1927 and 7,831 in 1926, an increase of 599 in the latest year. Of these 5,653 were convicted of "major" offences and 2,772 of "minor" offences, terms which correspond very nearly to "indictable" and "non-indictable" offences, as applied to adults. Convictions for "major" offences numbered 5,106 in 1929 and convictions for "minor" offences 2,720. The offences proven against juveniles in 1929 and 1930 are shown by provinces in Table 14, and by chief types of major offences committed for the years 1924-30 in Table 15.

14.—Juvenile Delinquents Convicted of Major and Minor Offences, by Provinces and Sex, 1929 and 1930.

Province.	Major Offences.			Minor Offences.		
	1929.	1930.	Increase or Decrease.	1929.	1930.	Increase or Decrease.
Prince Edward Island.....	M. 7	8	+	1	-	-
	F. -	-	-	-	-	-
	Totals 7	8	+	1	-	-
Nova Scotia.....	M. 147	192	+	45	122	109
	F. 11	11	-	-	15	13
	Totals 158	203	+	45	137	122
New Brunswick.....	M. 125	123	-	2	65	149
	F. 5	8	+	3	4	21
	Totals 130	131	+	1	69	170
Quebec.....	M. 799	993	+	194	449	434
	F. 33	40	+	7	142	114
	Totals 832	1,033	+	201	591	548
Ontario.....	M. 1,898	2,068	+	170	904	859
	F. 64	87	+	23	89	94
	Totals 1,962	2,155	+	193	993	953
Manitoba.....	M. 893	818	-	75	551	463
	F. 83	51	-	32	49	57
	Totals 976	869	-	107	600	520
Saskatchewan.....	M. 303	367	+	64	20	70
	F. 15	14	-	1	8	6
	Totals 318	381	+	63	28	76
Alberta.....	M. 344	435	+	101	164	203
	F. 5	8	+	3	6	5
	Totals 349	443	+	104	170	208
British Columbia.....	M. 364	408	+	44	121	170
	F. 10	20	+	10	11	5
	Totals 374	428	+	54	132	175
Canada.....	M. 4,880	5,412	+	532	2,396	2,457
	F. 226	241	+	15	324	315
	Totals 5,106	5,653	+	547	2,720	2,772

Major Offences.—In Table 15 are shown the various major offences for which juvenile delinquents were convicted in 1924 to 1930. It will be observed that theft, together with house- and shop-breaking, accounts for the great bulk of the offences; in 1930, 64.8 p.c. of the major offences were of this character.

15.—Juvenile Delinquents Convicted of Major Offences, by Offences, 1924-30.

Offence.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	Increase or Decrease in 1930.
Manslaughter.....	-	-	2	-	-	1	-	-
Rape, carnal knowledge and incest.....	19	-	8	5	13	10	5	- 5
Indecent assault.....	28	37	22	28	43	25	49	+ 24
Aggravated assault and wound- ing.....	29	11	16	14	24	48	10	- 38
Common assault.....	101	114	109	99	67	93	101	+ 8
Endangering life on railway.....	50	40	60	28	35	43	31	- 12
Other offences against the person	-	5	3	5	2	3	3	-
Breaking, entering and theft.....	811	677	653	770	818	972	944	- 28
Robbery.....	6	17	6	2	6	4	7	+ 3
Theft and receiving stolen goods.	2,750	3,275	3,462	3,289	3,255	3,081	3,662	+ 581
False pretences and fraud.....	8	12	8	22	10	15	24	+ 9
Arson.....	19	12	30	5	17	11	31	+ 20
Other wilful damage to property.	738	581	553	793	620	679	702	+ 23
Forgery and offences against currency.....	10	7	14	7	13	12	17	+ 5
Immorality.....	86	144	114	68	96	63	52	- 11
Various other offences.....	10	48	30	21	44	46	15	- 31
Totals.....	4,665	4,980	5,090	5,156	5,063	5,106	5,653	+ 547

Minor Offences.—Of the 2,772 juvenile delinquents found guilty of minor offences in 1930, 711 were convicted of breaches of municipal by-laws, 398 of disorderly conduct and disturbing the peace, 311 of disobedience and incorrigibility, 377 of trespass, 448 of truancy, 161 of vagrancy and indecent conduct and 366 of other minor offences.

Section 5.—Police Statistics.

In 1930, 139 cities and towns, with populations of 4,000 or over, supplied police statistics to the Dominion Bureau of Statistics. These cities and towns, with an aggregate population of 3,367,602, had 5,301 policemen, who made 303,000 arrests and summonses. The total number of offences committed during the year and made known to the police was 352,783, and the number of prosecutions was 260,087, or 73.7 p.c. of the known offences. Convictions secured in respect of these offences numbered 204,042, being 57.3 p.c. of the known offences and 77.5 p.c. of the prosecutions.

The number of automobiles reported stolen was 12,298, of which 11,842 were recovered. Of 9,256 bicycles stolen, 5,474 were recovered. The value of other lost articles reported to the police was \$2,056,412, of which 64 p.c. was recovered.

16.—Police Statistics of Canadian Cities and Towns, by Provinces, year ended Sept. 30, 1930.

Province.	Number of—					Number of the Population to each Policeman.	Number of Arrests per Policeman.
	Cities and Towns.	Population.	Police.	Arrests.	Summonses.		
Prince Edward Island . . .	1	12,347	8	564	390	1,544	
Nova Scotia	14	175,500	145	7,304	2,125	1,210	
New Brunswick	5	81,219	88	2,752	983	923	
Quebec	30	1,004,694	2,109	37,101	26,144	477	
Ontario	64	1,396,634	1,862	44,982	99,937	764	
Manitoba	7	241,665	311	7,584	25,205	177	
Saskatchewan	6	100,966	139	3,409	3,716	726	
Alberta	4	150,725	191	5,548	6,250	789	
British Columbia	8	203,852	448	10,947	20,224	455	
Canada	139	3,367,602	5,301	120,191	182,974	616	

Section 6.—Penitentiary Statistics.

The Penitentiaries Branch of the Department of Justice is charged with the administration of the various penitentiaries in Canada. Six institutions are included in the system, the two largest of which are at Portsmouth, Ont., and St. Vincent de Paul, Que., while the other four are at Dorchester, N.B.; Prince Albert, Sask.; Stony Mountain, Man.; and New Westminster, B.C. During the fiscal year ended Mar. 31, 1931, the average daily population of these institutions was 3,434 and the total net expenditure for the year was \$3,034,438, as compared with 2,868 average daily population and \$2,372,810 total net expenditure for the year 1930.

Female convicts, numbered 27 on Mar. 31, 1925, but had increased to 40 on Mar. 31, 1928 and were 32 on Mar. 31, 1929, 38 on Mar. 31, 1930, and 44 on Mar. 31, 1931. They are all kept in the penitentiary at Portsmouth, a suburb of Kingston, where a special wing and staff are maintained for their detention and supervision. A new building to be used for this purpose is under construction.

Tables 18 to 20 give the more important penitentiary statistics as reported by the Superintendent. An increase of 418 is shown in the number of those in custody on Mar. 31, 1931, as compared with the same date in the previous year. The number of paroles as shown in Table 18 for 1931 is an increase of 50 compared with the previous year. It has fluctuated considerably between the 566 mark in 1924 and the figure of 413 set for 1931. Table 19, showing the ages of convicts by groups, indicates that since 1923, when the total number in custody reached 2,486, there has been an increase in the average age of those in custody. In the last five years, the convicts under 30 increased from 1,344 to 2,194 or by 850, while the total number in custody increased by 1,241; so that convicts over 30 showed an actual increase but a proportional decrease. Detailed statistics of nationality, religion, conjugal state and racial origin are presented in Table 20.

Population of Penal Institutions.—The penal institutions of Canada may be classified under four heads: penitentiaries, distinguished by long sentences and comparatively slow turnover; reformatories for boys and reformatories for girls, also with a rather slow turnover, but more rapid in the case of boys than that of girls; and lastly common gaols, where the turnover is extremely rapid. If the average population for the year be the average of the inmates at the beginning and end of the year, and the number discharged be the turnover, the turnover in 1929 was: in penitentiaries, 44 p.c.; in reformatories for boys, 284 p.c.; in reformatories for girls, 117 p.c.; in gaols, no less than 1,690 p.c. Thus the average time spent in gaol is a little over three weeks. In dealing with these figures it must be borne in mind that common gaol population changes from day to day and is partly made up of accused persons awaiting trial who may be liberated to-day or sent to penitentiary or reformatory to-morrow.

17.—Population of Penal Institutions, 1928-30.

NOTE.—Penitentiary statistics until 1919 were supplied directly by each penitentiary and were for the calendar year. For 1920 and subsequent years they have been supplied by the Superintendent of Penitentiaries and are for the fiscal year ended Mar. 31. For other institutions, the figures are as at Sept. 30.

Penal Institutions.	In Custody, beginning of year.	Admitted during year.	Discharged during year.	In Custody, end of year.
1928.				
Penitentiaries.....	2,480	1,202	1,112	2,560
Reformatories for boys.....	2,409	7,286	7,260	2,435
Reformatories for girls.....	441	497	501	437
Gaols.....	2,634	49,980	49,485	3,129
Totals.....	7,964	58,965	58,368	8,561
1929.				
Penitentiaries.....	2,560	1,383	1,174	2,769
Reformatories for boys.....	2,435	7,615	7,328	2,722
Reformatories for girls.....	437	465	494	408
Gaols.....	3,129	57,165	56,715	3,579
Totals.....	8,561	66,628	65,711	9,478
1930.				
Penitentiaries.....	2,769	1,648	1,230	3,187
Reformatories for boys.....	2,846 ¹	9,728	9,469	3,105
Reformatories for girls.....	602 ²	543	497	648
Gaols.....	3,579	63,672	62,968	4,283
Totals.....	9,796	75,591	74,164	11,233

¹ St. John's Industrial School, Toronto, added in 1930.

² Alexander Industrial School, Toronto,

18.—Movement of Convicts, fiscal years ended Mar. 31, 1924-31.

Schedule.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	No.	No.	No.	No.	No.	No.	No.	No.
In custody, beginning of fiscal year	2,486	2,225	2,345	2,473	2,480	2,560	2,769	3,187
Received—								
By forfeiture of parole.....	7	9	7	5	7	6	1	1
Paroles revoked.....	16	16	16	20	15	14	23	1
Recaptured.....	2	1	1	3	—	—	1	1
By transfer.....	18	14	94	15	9	110	187	16
From gaols, etc.....	827	928	1,014 ¹	1,003	1,171 ⁴	1,253 ⁴	1,436	1,600
Totals.....	3,356	3,193	3,477	3,519	3,682	3,943	4,417	5,000
Discharged by—								
Death.....	16	14	17 ⁵	13 ⁶	16 ⁵	16	14	14
Escape.....	8 ⁴	—	6 ⁴	3	1 ²	2 ³	1	1
Expiry of sentence.....	377	342	473	535	647	577	559	600
Order of the Court.....	8	11	8	3	2	1	2	2
Pardon.....	31	12	9	7	11	10	15	15
Parole.....	566	366	300	377	363	384	363	400
Transfer.....	17	11	94	15	9	110	187	16
Deportation.....	100	82	92	80	70	61	77	77
Transferred to provincial gaol and executed.....	—	—	—	—	—	—	2	2
Return to provincial authorities..	8	10	5	6	3	13	10	10
In Custody, end of fiscal year..	2,225	2,345	2,473	2,480	2,560	2,769	3,187	3,187

¹One from mental hospital. ²From asylum. ³One from asylum. ⁴From provincial institutions: 2 in 1924, 5 in 1926, 2 in 1928 and 2 in 1929. ⁵Includes 1 suicide. ⁶While on temporary ticket-of-leave, 2.

19.—Ages of Convicts, as at Mar. 31, 1924-31.

Age Group.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	No.	No.	No.	No.	No.	No.	No.	No.
Under 20 years.....	212	240	257	281	338	322	377	377
From 20 to under 30 years.....	968	1,061	1,087	1,036	1,137	1,274	1,460	1,460
From 30 to under 40 years.....	578	591	635	634	587	629	738	738
From 40 to under 50 years.....	287	292	321	364	336	357	395	395
From 50 to under 60 years.....	125	116	126	120	122	141	144	144
Over 60 years.....	55	45	47	45	40	46	73	73
Totals.....	2,225	2,345	2,473	2,480	2,560	2,769	3,187	3,187

20.—Convicts in Penitentiaries, Classified by Race, Nationality, Religion, etc., as at Mar. 31, 1924-31.

Item.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	No.	No.	No.	No.	No.	No.	No.	No.
By Race—								
African.....	63	54	48	42	43	60	60 ³	60 ³
Caucasian.....	2,065	2,198	2,327	2,354	2,409	2,589	2,995	3,187
Indian.....	42	50	54	43	50	49	52	52
Mongolian.....	51	40	44	41	58	71	80	80
East Indian.....	3	1	—	—	—	—	—	—

20.—Convicts in Penitentiaries, Classified by Race, Nationality, Religion, etc.,
as at Mar. 31, 1924-31—concluded.

Item.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	No.	No.	No.	No.	No.	No.	No.	No.
By Nationality (Place of Birth)—								
British—								
Canadian.....	1,298	1,404	1,508	1,540	1,589	1,747	2,056	2,441
English and Welsh.....	167	170	183	177	197	209	240	292
Irish.....	37	35	31	40	35	49	31	42
Scotch.....	51	59	62	61	59	74	95	118
Other British.....	22	25	24	29	28	36	33	30
Foreign—								
Austrian or Hungarian.....	105	99	107	94	67	78	94	92
Chinese.....	46	37	36	37	53	62	74	75
Italian.....	60	58	65	77	75	66	60	64
Russian.....	110	97	91	76	85	75	119	95
United States.....	205	207	206	209	220	223	253	274
Other foreign.....	124	154	160	140	120	156	132	191
By Conjugal State—								
Single.....	1,317	1,411	1,485	1,534	1,597	1,680	1,967	2,328
Married.....	779	823	871	827	849	965	1,088	1,240
Widowed.....	127	110	116	115	110	121	123	139
Divorced.....	2	1	1	4	4	3	9	7
By Sex—								
Male.....	2,194	2,318	2,439	2,441	2,520	2,729	3,149	3,670
Female.....	31	27	34	39	40	32	38	44
By Social Habits—								
Abstainers.....	483	507	540	475	446	425	611	872
Temperate.....	1,255	1,374	1,549	1,491	1,611	1,840	2,033	2,338
Intemperate.....	487	464	384	514	503	504	543	504
By religion—								
Anglican.....	354	370	392	381	409	480	546	618
Baptist.....	99	92	118	105	129	144	158	169
Buddhist.....	38	28	31	14	39	55	62	68
Greek Catholic.....	65	56	65	61	43	49	54	69
Jewish.....	49	51	53	44	37	53	62	66
Lutheran.....	33	51	65	58	58	62	74	83
Methodist.....	212	213	224	192	—	—	—	—
Presbyterian.....	272	285	269	269	272	284	318	407
Roman Catholic.....	1,025	1,130	1,201	1,281	1,272	1,337	1,561	1,810
United Church.....	—	—	—	3	233	233	273	329
Other creeds.....	72	64	47	57	68	72	79	68
No creed.....	6	5	8	15	—	—	—	—
Totals.....	2,225¹	2,345²	2,473	2,480	2,560	2,769	3,187	3,714

¹Includes 1 Arabian. ²Includes 2 Eskimos. ³All "coloured".

CHAPTER XXVIII.—MISCELLANEOUS ADMINISTRATION.

Section 1.—Public Lands.

Table 1 pp. 918-9 below represents an attempt to summarize the character and disposition of the land area of Canada. Since there are still large areas which have been very little explored and a much larger area not surveyed and therefore not classified with regard to its possibilities, many of the figures given are mere estimates. Furthermore, this is the first attempt to present the information comprehensively for the different provinces and territories in one table, and it can not be claimed, for the present, that figures given are exactly comparable as between the different provinces. However, with the further co-operation of the provinces, it should be possible gradually to fill in missing figures in future years and generally to increase the accuracy of the information given. The continued extension of exploration and surveys in Canada will enable the governmental authorities to classify more exactly the lands within their jurisdiction.

In this table the areas of occupied and abandoned farms and of farm woodlots are taken from the 1931 census. The totals of the land area of the provinces and territories are the areas revised by the Topographical Survey, Dominion Department of the Interior, and agree with those appearing in the table on p. 7 of this volume while the areas of Indian reserves are those reported by the Department of Indian Affairs. For other items, figures supplied by the provinces have been used wherever available; otherwise estimates from Dominion Government sources, chiefly the Forest Service, have been substituted. The various items for each province do not always add up to the totals given because the individual items, being drawn from different sources, are neither wholly inclusive nor exclusive, and lands of somewhat similar character may be included in another class which describes them from a different view-point, *e.g.*, provincial Crown lands may be under grazing leases or may be partially or wholly under forest cover, although potentially better suited for agricultural cultivation.

Subsection 1.—Dominion Public Lands.

As described on p. 1019 of the 1931 Year Book, the lands and natural resources lying within the boundaries of the provinces of Manitoba, Saskatchewan, Alberta and British Columbia, which had formerly been administered by the Dominion Government, were transferred to the administration of the provinces concerned at various dates in 1930.

Actual Dominion lands, therefore, now comprise the Northwest Territories including the Arctic islands and the islands in Hudson bay; the Yukon Territory

the National Park areas, Indian reserves, and historic sites in the different provinces throughout Canada; certain small and widely scattered parcels of Ordnance and Admiralty lands which have been held by the Dominion Government since Confederation and are rented, disposed of, or otherwise administered with a view to bringing as many properties as possible to a state of revenue production; and, finally, public lands, at one time alienated, but which have been revested in the Crown in the right of the Dominion for various reasons, and upon which public monies have been spent.

With the exception of the National Parks (see table on p. 46 of this volume) and the Indian reserves, all these Dominion lands lying within the provinces are small in area. The great bulk of the land areas under Dominion administration are those of the Yukon and Northwest Territories, amounting to about 1,460,000 sq. miles or 41 p.c. of the land surface of Canada. The southern border of both the Yukon and the Northwest Territories is the 60th parallel of N. latitude. In Europe, Oslo, Stockholm and Leningrad are near this line, while about three-fourths of Norway, two-thirds of Sweden, all of Finland and a large proportion of Russia are north of it.

Interest in this northern part of the national domain has been awakened throughout Canada in the past decade and the administration of these lands was placed under a separate branch of the Dominion Government, the Northwest Territories and Yukon Branch of the Department of the Interior, until 1931, when they were revested in the Dominion Lands Administration. The Royal Canadian Mounted Police maintain law and order throughout the Northwest Territories and Yukon. More detailed particulars of the administration of each territory follows:—

The Northwest Territories.—The government of the Northwest Territories is vested in a Commissioner, a Deputy Commissioner, and a Council of five members with Ottawa as the seat of Government. The administration is carried on by the Department of the Interior through the Dominion Lands Administration. The Territories are subdivided for administrative purposes into the provisional districts of Mackenzie, Keewatin and Franklin. The district of Mackenzie is, as yet, the most widely known and developed, trading posts and settlements being located all along the great stretch of inland waterways known as the Mackenzie system. Fort Smith, the headquarters of the Mackenzie district, is located on the Slave river north of the rapids. From this point there is uninterrupted navigation to the Arctic ocean, a distance of approximately 1,369 miles.

The Administration has provided for a government hospital and medical service, grants to the Anglican and Roman Catholic churches for education, an excellent mail service in which river steamboats and aeroplanes co-operate, motor roads and a system of radio stations linking up Fort Smith, Resolution, Simpson and Aklavik with Edmonton, Alberta, and with Dawson and Mayo in the Yukon Territory.

1.—Character and Disposition of Lands in Canada (*circa*) 1931.

(Areas in thousands of acres.)

Description of Land Areas.	P.E.I.	N.S.	N.B.	Que.	Ont.
Agricultural Lands—					
Alienated, Patented, Granted, etc.—					
Occupied farm lands ¹	1,191	4,302	4,153	17,758	21,978
Abandoned farms ¹	27	322	180	333	578
Homesteads, including military homesteads..	—	—	—	—	—
Pre-emptions, sales, scrip, etc.....	—	—	—	—	—
Parish and river lots.....	—	—	—	—	—
Grants to railway companies.....	—	—	—	—	—
Grants to Hudson's Bay Co.....	—	—	—	—	—
Sold subject to drainage or irrigation.....	—	—	—	—	—
School land endowment.....	—	—	—	—	—
Road allowances ⁷	37	139	130	543	677
Totals, Alienated, Patented, Granted, etc. ⁸	1,255	4,763	4,463	18,634	23,229
Grazing Leases.....	—	—	—	—	672
Agricultural Land under Forest—					
Farm woodlots ¹	339	2,491	2,413	6,085	4,484
Unoccupied ³	325	3,165	4,035 ²	14,460	16,640
Totals, Agricultural Land under Forest....	664	5,656	6,448	20,545	21,124
Dominion Crown Lands—					
Indian reserves ⁶	2	19	38	194	1,009
Ordinance lands.....	—	2	—	3	8
Provincial Crown Lands.....	—	—	—	12,630 ²	—
Totals, Agricultural Lands ¹	1,258	8,092	10,718	43,745	66,866 ²
Forest Lands—					
Alienated, Granted, etc.....	—	—	—	—	—
Timberlands alienated ³	460	7,872	5,830 ²	21,780	5,100
Farm woodlots ⁶	339	2,491	2,413	6,085	4,584
Totals, Alienated, Granted, etc.....	798	10,363	8,243	27,865	9,584
Under lease, licence to cut, timber berths, pulp concessions, etc.....	—	886 ²	6,800 ²	51,699 ²	44,756 ²
Occupational leases.....	—	—	—	—	206
Forest reserves and forested parks—					
Dominion parks.....	—	—	—	—	103
Provincial forest reserves.....	—	—	—	18,534 ³	12,550 ³
Provincial parks, game preserves, etc.....	—	270 ²	450 ²	4,665 ²	3,130 ²
Totals, Forest Reserves and Forested Parks	—	270	450	23,200	15,690
Dominion Crown Lands.....	—	—	—	—	10
Provincial Crown Lands.....	—	1,000	7,000	—	153,357
Totals, Forest Lands ⁶	460	9,740	13,010 ²	—	158,467 ²
Other Lands—					
Mineral lands.....	—	—	—	—	—
Indian game preserves in N.W.T.....	—	—	—	—	—
Reindeer grazing lands.....	—	—	—	—	—
Waste, barren, above timber line, etc.....	—	400	360 ²	—	—
Totals, Other Lands.....	344	12,176	454	342,243	28,291
Summary—Alienated, Patented, Granted, etc.⁸.....	1,255	4,763	4,463	25,000 ²	23,229
Dominion Crown Lands.....	2	21	38	197	1,027
Provincial Crown Lands ¹¹	—	1,429 ²	7,500 ²	325,445 ²	—
Totals, Land Area⁴.....	1,398	13,276	17,734	365,443	232,500

¹These figures are preliminary from the 1931 census and should be taken as subject to correction.
²Figures supplied by provincial authorities. ³Figures from the Forest Service, Department of the Interior.
⁴Figures from the Topographical Survey, Department of the Interior. ⁵From report of Department of Indian Affairs, 1931. ⁶Includes woodlots or forested area of occupied farms as reported in 1931 census. ⁷Estimated as 3 p.c. of occupied and abandoned farms, except for the Prairie Provinces.

1.—Character and Disposition of Lands in Canada (*circa*) 1931—concluded.

(Area in thousands of acres.)

Description of Land Areas.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Total.
Agricultural Lands—						
Alienated, Patented, Granted, etc.—						
Occupied farm lands ¹	15,135	55,665	38,978	3,356	5	162,521
Abandoned farms ¹	1,161	1,024	1,395	248	—	5,264
Homesteads, including military homesteads.....	8,418	30,356	21,003	—	—	59,777 ¹⁰
Pre-emptions, sales, scrip, etc.....	5,846	6,728	3,542	—	—	16,116 ¹¹
Parish and river lots.....	529	85	121	—	—	735 ¹⁰
Grants to railway companies.....	3,554	15,198	13,033	—	—	31,785 ¹⁰
Grants to Hudson's Bay Co.....	1,274	3,353	2,404	—	—	7,031 ¹⁰
Sold subject to drainage or irrigation	41	84	314	—	—	430 ¹⁰
School land endowment.....	1,639	3,945	3,769	—	—	9,353 ¹⁰
Road allowances ⁷	978	1,469	1,291	108 ⁷	—	5,372
Totals, Alienated, Patented, Granted, etc. ⁸	22,279 ⁹	61,218 ⁹	45,477 ⁹	3,712	5	185,035
Grazing Leases.....	74	3,493	3,077 ²	72 ²	—	6,783
Agricultural Land under Forest—						
Farm woodlots ¹	1,998	3,449	3,927	1,155	2	26,343
Unoccupied ³	1,330	2,960	6,020	3,580	—	52,515
Totals, Agricultural Land under Forest.....	3,328	6,409	9,947	4,735	2	78,858
Dominion Crown Lands—						
Indian reserves ⁵	475	1,369	1,281	735	4	5,125
Ordinance lands.....	—	—	—	—	—	13
Provincial Crown Lands.....	—	—	—	—	—	—
Totals, Agricultural Lands ¹	24,700	93,458	97,123	22,608	—	363,563
Forest Lands—						
Alienated, Granted, etc.—						
Timberlands alienated ³	5,430	3,340	8,730	11,620	—	70,162
Farm woodlots ⁶	1,998	3,449	3,927	1,155	2	26,343
Totals, Alienated, Granted, etc.....	7,428	6,789	12,657	12,795	2	96,505
Under lease, licence to cut, timber berths, pulp concessions, etc.....	1,364	560	696 ²	9,069 ²	—	115,631
Occupational leases.....	—	—	—	—	—	—
Forest reserves and forested parks—						
Dominion parks.....	735	1,197	15,760	1,098 ³	11,900	30,700
Provincial forest reserves.....	2,360	6,150	12,440	8,432 ²	—	60,466
Provincial parks, game preserves, etc.....	—	4	2	1,917 ²	—	10,438
Totals, Forest Reserves and Forested Parks.....	3,095	7,350	28,200	11,447	11,900	101,602
Dominion Crown Lands.....	735	1,197	15,760	1,098	6,400	25,200
Provincial Crown Lands.....	—	—	—	78,714	—	—
Totals, Forest Lands ⁶	—	—	—	91,432 ²	6,400	—
Other Lands—						
Mineral lands.....	—	—	—	1,341 ²	—	—
Indian game preserves in N.W.T.....	—	—	—	—	334,000	334,000
Reindeer grazing lands.....	—	—	—	—	34,600	34,600
Waste, barren, above timber line, etc.....	—	—	—	92,800 ³	—	—
Totals, Other Lands.....	122,485	65,255	72,056	114,676	930,271	—
Summary—						
Alienated, Patented, Granted, etc. ⁸	22,279	61,218	48,244 ²	14,945 ²	—	—
Dominion Crown Lands.....	1,210	2,566	17,041	1,833	—	—
Provincial Crown Lands ¹¹	—	—	84,467 ²	—	—	—
Totals, Land Area ⁴	143,857	152,304	159,232	223,981	936,669	—

which are from the 1930 Year Book, p. 961. ⁸Assumed to be the sum of occupied and abandoned farms and road allowances, except for the Prairie Provinces. ⁹From the 1930 Year Book, p. 961. ¹⁰Totals for the Prairie Provinces only. ¹¹The area of provincial crown lands should normally be the total land areas less Dominion Crown lands and those alienated, patented, granted, etc., within the province.

The Department of the Interior has set aside certain areas, totalling over 500,000 sq. miles, as preserves wherein only the Indian and the Eskimo may hunt. Officers in the field have made investigations into the conditions affecting musk-ox, caribou and other forms of wild life. The Wood-Buffalo park in the vicinity of Fort Smith covers an area of 17,300 sq. miles; it has been specially preserved for the protection of the buffalo. The Thelon Game Sanctuary to the east of Great Slave lake is in its turn the home of musk-oxen and caribou.

Included in the Northwest Territories are the Arctic prairies, which are capable of supplying pasturage to millions of reindeer and caribou. Following investigations, steps have been taken to establish a Government herd of reindeer in a suitable location on the lower Mackenzie. Indications are that this experiment will result in a plentiful meat supply in the future.

Another feature of administration has been the installation of a chain of wireless stations. This has been a great boon to the isolated posts of the Mackenzie district, as the traders and trappers are now able to keep in constant touch with outside markets, a condition enabling them to dispose of their catch to the greatest advantage. In addition to supplying market news, the radio keeps the inhabitants of the North in contact with some of the amenities of civilization.

Exploratory work has been pushed forward throughout the Territories and local surveys made in the Mackenzie and Franklin districts. Mining prospectors are following in the tracks of the explorers and the aeroplane has been used as the means of transportation to the field of operations. Drilling operations near Norman on the Mackenzie river resulted a few years ago in striking a considerable flow of oil. Exploitation of this resource awaits only the further general development of the area. The Laurentian Shield, which has proved so rich in valuable minerals in Eastern Canada, is continued into the eastern half of the Territories—the portion lying between Great Slave lake and Hudson bay—and, although little exploration has been carried out to date, valuable mineral finds have been made including the radium deposit of Great Bear lake and the copper of Coppermine. The agricultural land of the Territories lies almost entirely in the extension of the central plain defined by the Mackenzie valley.

It is known that there are many possible water-power sites throughout the Territories; these will no doubt be developed as a consequence of mining enterprises. Much of the upper Mackenzie valley carries a forest cover, which furnishes timber and fuel for local needs. Fishing, agriculture, mining and lumbering are engaged in to some extent, but the principal industry of the Territories is the taking and export of furs. Many trading posts operate throughout the regions tributary to the Arctic coast, Hudson bay, and the great inland systems of waterways.

The Yukon Territory.—The Yukon Territory is administered by the Dominion Lands Administration of the Department of the Interior as in the case of the Northwest Territories. The Gold Commissioner, resident at Dawson, is the executive head of a local elective government of three members termed the Yukon Council, with jurisdiction over local matters. The Gold Commissioner acts on instructions from the Governor in Council or the Minister of the Interior. Hospitals, schools, motor roads, and other amenities of modern life have been provided and in addition to the overland telegraph line, wireless stations at Dawson and Mayo link up with the outside world through the Northwest Territories and Edmonton.

The route ordinarily taken to enter the territory is from Skagway, Alaska, on the south, thence by the White Pass and Yukon Railway to Whitehorse, and by river boat to Dawson.

Confederation had been consummated for thirty years before Yukon came into meteoric prominence as one of the great mineral areas of the world. This prominence was due to the discovery of the Klondike placer gold fields, the development of which reached its peak in the decade 1897-1906.

Yukon has produced over \$200,000,000 worth of gold since the Klondike rush, but the old placer claims, operated with cradle, pick and shovel have given place to consolidated holdings worked with hydraulic dredges and other modern machinery. Silver, lead, copper, tungsten and coal are known to exist in paying quantities, and of late years the development of the silver-lead ores of the Mayo district has been one of the major factors in the growth of lode-mining enterprises. There is a hydro-electric installation of 13,200 h.p. in the Yukon Territory, but this is only a small proportion of the possible installation which will be developed as required.

Although fishing, agriculture (including fur-farming), and some lumbering are carried on as auxiliary industries, the future of the Yukon is inevitably bound up with mining development.

Subsection 2.—Provincial Public Lands.¹

In the Maritime Provinces, in Quebec, Ontario and British Columbia (except the Railway Belt and the Peace River Block) the public lands have been administered by the Provincial Governments since Confederation. With the transfer of the natural resources to the Prairie Provinces and British Columbia, as outlined in chapter XXVII, p. 1019 of the 1931 Year Book, public lands in all provinces are now under provincial administration. In Prince Edward Island all the land is alienated so that there are no provincial public lands.

Nova Scotia.—All provincial legislation regarding Crown lands and forests is governed by an Act passed in 1926, called the Lands and Forests Act. The total area of the Crown lands in Nova Scotia is 1,429,482 acres.

Crown land can only be granted to applicants of not less than 18 years of age, desiring the land for their own benefit and for the purpose of actual settlement, and for agricultural or grazing purposes, the grant in each case not exceeding 150 acres. The price of such land is \$1 per acre in addition to the expense of surveying. The applicant obtains a grant of the land only if he, two years from the date he has taken possession thereof, has built a house thereon; has resided upon the said land for not less than three successive years; and has cultivated not less than ten acres of land thereof.

Crown land may be leased if the land is of inferior quality, and if the person proposing to lease same undertakes to expend money in draining, dyking or developing such land. Lands may also be leased if the person proposing to lease same undertakes to expend money in the erection of mills and machinery for the manufacture of wood products or pulp. Grants and leases are signed by the Lieutenant-Governor in Council.

¹Revised by the officers of the respective Provincial Administrations. For copies of the detailed regulations governing the disposal of provincial Crown lands, application should be made as follows: Nova Scotia, to the Minister of Lands and Forests, Halifax; New Brunswick, to the Deputy Minister of Lands and Mines, Fredericton; Quebec, to the Deputy Minister of Lands and Forests, Quebec; Ontario, to the Minister of Lands and Forests, Parliament Buildings, Toronto; Manitoba, to the Director of Lands, Department of Mines and Natural Resources, Winnipeg; Saskatchewan, to the Director of Lands, Department of Natural Resources, Regina; Alberta, to the Publicity Commissioner, Edmonton; British Columbia, to the Deputy Minister of Lands, Victoria.

The Minister of Lands and Forests may grant licences to cut timber on the ungranted land of the Crown, on payment of such dues as may be in his discretion. The cutting licences are subject to regulations and restrictions prescribed by the Lieutenant-Governor in Council.

New Brunswick.—The area of New Brunswick is about 17,863,000 acres. Of this the Crown holds about 7,500,000 acres, most of which is timber land. The province is essentially a wooded country, and will in all probability always derive a large part of its revenue from forest industries. Practically all the Crown timber lands are held by licence for the cutting of timber, most of these licences expiring in 1933, subject to a renewal for an additional 10 years; or pulp or paper licences may be issued for a term of up to 50 years where the licensees have undertaken to erect or enlarge pulp or paper mills within a specified period. While it may safely be said that the bulk of the Crown lands are better suited to lumbering than agriculture, yet there are still some Crown lands well suited to mixed farming, which may be taken up by prospective settlers. The maximum allowed to any one settler is 100 acres, and he is required to reside on the land three years and cultivate ten acres of the same before obtaining a grant. For some of the best lands there is a charge of \$1 per acre, in addition to the settlement duties already referred to. The charge may be paid in four annual instalments. The Provincial Government controls hunting throughout the province and angling in non-tidal waters within the province. Fishing in tidal waters is, however, under the control of the Dominion Government.

Quebec.—In Quebec the area of public lands subdivided and unsold on June 30, 1930, was 8,463,816 acres. During the year ended June 30, 1931, 64,135 acres were surveyed; 116,325 acres reverted to the Crown; 200,386 acres were granted for agricultural and industrial purposes, etc.; adding to the acreage available at June 30, 1930, the area surveyed and the areas that reverted, and deducting sales and grants, there remained subdivided and unsold on June 30, 1931, 8,443,890 acres. Agricultural lands in 100-acre lots are available for settlement upon prescribed conditions at 60 cents per acre, on application to the Department of Colonization, Game and Fisheries.

Ontario.—Public lands in the province of Ontario are administered by the Department of Lands and Forests, Parliament Buildings, Toronto.

In Old Ontario, that is that part of the province below the French river and lake Nipissing, which comprises an area of approximately 77,000 square miles, there are still available for the settler public lands suitable for agriculture, but the bulk of the good agricultural land vested in the Crown is in northern Ontario which has an area of 335,000 square miles. The suitable lands in southern Ontario are chiefly situated in Muskoka and Parry Sound districts and in the counties of Haliburton, Peterborough, Hastings, Frontenac, Lennox and Addington, and Renfrew. In northern Ontario the suitable lands are in Nipissing, Timiskaming, Cochrane, Sudbury, Algoma, Thunder Bay, Kenora, and Rainy River districts.

The Department maintains Crown Land Agencies at different points throughout the districts in which the Crown lands are available for supervision of the settlement of the lands and for the receiving of applications and other duties in connection therewith. A list of the Agents, giving their respective addresses, is found in a Departmental booklet entitled "Settlers' Lands in Ontario", copies of which may be obtained on request from the Department at Toronto.

In northern Ontario the townships which are open for sale are subdivided into lots of 160 acres each, with the exception of Cochrane and Timiskaming districts, where the area to which an individual is entitled is 80 acres.

Conditions under which sale lands throughout the province may be obtained involve personal residence for at least 6 months in each year; payment of one-quarter the purchase price, which is 50 cents per acre, with the application, the remainder being spread over three years with interest at 6 p.c.; and the clearing and cultivation of a prescribed acreage in addition to the construction of the necessary habitations. Tax regulations enable an individual to purchase a lot of 160 acres and place an agent in residence, but the duties in such case to be performed before the issue of patent are double those required in ordinary purchases. When a purchaser has completed his duties, made payment in full, and obtained his patent, he may make application for an additional parcel in some cases, for which a further patent may be obtained, for pasture purposes, and there is no necessity to construct additional buildings on the additional parcel provided the applicant is in residence on and cultivating the parcel already patented.

Free grant land is available in certain sections of the province. These lots consist also of 160 acres for the most part. No purchase money is required, but the following duties must be completed: 15 acres to be cleared and under cultivation; a house to be erected with dimensions of at least 16 ft. x 20 ft.; actual and continuous residence on the land from time of location to issue of patent; mines and minerals and timber other than pine go with patent. Returned soldiers, on production of discharge certificates, may make application and sale lands can be allowed to them under free grant conditions.

Public lands may also be leased or the use of the same be obtained under licence of occupation for specific terms at nominal rates for sheep raising, ranching and other purposes.

Many fine sites are available for the erection of summer homes and for the enjoyment of summer pastimes. The Department issues a booklet entitled "Summer Homes in Ontario" dealing with this subject. Copies may be obtained on application to the provincial authorities.

To assist settlers in the northern part of the province, the Department of Northern Development, through the Settlers' Loan Commissioner, makes advances up to \$500 to settlers to enable them to purchase stock and seed and to improve their property. Information with respect to these loans may be obtained direct from the Settlers' Loan Commissioner at Toronto.

The Department of Northern Development, which comes under the Minister of Lands and Forests, administers the roads in northern Ontario, which now total approximately 15,000 miles. Inquiries with respect to these roads should be directed to the Deputy Minister of Northern Development at Toronto. Each year this department constructs new roads at the average rate of one mile per day, and in the sections served by these roads there are still available, in addition to the free grant lands already mentioned, millions of acres of suitable land which can be purchased by *bona fide* settlers at 50 cents per acre.

Manitoba.—The Provincial Government of the province of Manitoba has control of approximately ten million acres of unsold land, of which one million consists of school lands. The greater portion of these lands was recently transferred to the province by the Dominion Government; a considerable part of them is situated in the eastern section, the inter-lake area, and west and northwest of lake Manitoba.

Intending settlers and others are afforded the choice of selecting from the unsold area lands suitable for grain crop, mixed farming or stock raising; and for the purpose of placing the lands within easy reach of all, the terms of sale have been set at 10 p.c. cash, balance over a period of 10 years, with interest at 6 p.c. Much of this land is situated within reasonable distance of rail facilities and organized communities, thereby affording splendid opportunities to prospective purchasers.

Large areas of these lands, particularly in the northern section of the province are ideal for grazing purposes on a large scale. Intending ranchers may lease large tracts up to 10,000 acres, over a period of years, at 4 cents per acre. This industry has been sadly neglected in recent years, and now affords excellent opportunities to prospective ranchers. The Provincial Government also possesses large areas of marsh lands particularly adapted to muskrat farming, an industry which is now becoming firmly established in Manitoba by reason of the very favourable climatic conditions and abundant supply of the various roots and grasses upon which the muskrat thrives. These areas may be leased but not sold. The length of lease may be arranged to suit the lessee. The province also controls a few partly improved properties which may be purchased on very easy terms. These lands are situated in the better farming districts.

The province controls very attractive recreational areas in the eastern and northern sections, within easy reach of motor highways. These summer resort areas may be either purchased or leased on very attractive terms.

For further particulars application should be made to the Director of Lands, Law Courts Building, Winnipeg, Manitoba.

Saskatchewan.—The Provincial Government of the province of Saskatchewan has control of approximately seventeen million acres of surveyed lands. Forests and timber berths comprise nearly seven million acres. Grazing lands consist of about three and one-half million acres. There are two million acres of unsold school lands and at least three million acres available for provincial land settlement.

Intending settlers in the province of Saskatchewan must be British subjects by birth or by naturalization or through the naturalization of the father. Residence in the province of Saskatchewan for a term of at least four years is a necessary condition of eligibility for entry. Provincial land settlement entries are disposed of under easy terms of payment. The terms of the sale have been set at 10 p.c. cash and the balance is payable over a period of twelve years with interest at 6 p.c. The minimum price is \$1 per acre. The greater part of the provincial lands are situated in the parts of the province north of Township 36. Residence for a term of four months in each of three years, and at least twenty acres of breaking must be performed for the settlement entry. A habitable dwelling of a value of not less than \$60 must be erected on the land for which entry was made.

Lands which are suitable for grazing purposes only are disposed of under grazing lease, but, if the area is less than one section, such area is disposed of under the regulations as pasture lands and the minimum price is set at \$1 per acre. Pasture lands are only sold to settlers in the immediate vicinity.

Provisions are made for disposal of areas for fur-farming purposes and a considerable industry has grown up in this province, particularly in respect of muskrat farming. Water areas with the adjoining land necessary for the purpose of muskrat farming, to the extent of not more than six hundred and forty acres, may be leased

for this purpose. A fee of \$10 must accompany each application for a fur-farm lease. The annual rental for the first three years is twenty-five cents per acre of the combined land and water area and for the remainder of the term the rental is twenty cents per acre.

The forest and timber berth areas in the northern part of the province are of very considerable extent and there is much merchantable timber available for disposal through the Forestry Branch of the Department of Natural Resources. The water areas in the province amount to about 8,784,000 acres. The water powers are located chiefly in the northern part of the province. There is a Fisheries Branch, in charge of a competent supervisor, in the Department of Natural Resources. There are considerable coal areas, deposits of sodium sulphate and of clay as well as favourable structures for petroleum and natural gas in the southern part of the province, while the Precambrian rocks which have proved rich in metallic minerals in other parts of Canada are exposed over large areas in the northern part of the province. The mining industries are in their infancy in this province.

Applications for further particulars should be made to the Deputy Minister, Department of Natural Resources, Regina, Saskatchewan.

Alberta.—In accordance with new regulations effective with the passing of control of the lands from the Dominion to the province, all available surveyed lands in Alberta, included in the Edmonton, Peace River and Grande Prairie land agencies, are held for homestead settlement only by those who have been resident in the province for a period of not less than three years, who have attained the age of 17 years and who are British subjects or who declare their intention of becoming such. Applicants must have resided in the province for at least twelve months within the three years immediately preceding the application for homestead rights. Residents under this regulation who had prior to Jan. 1, 1925, obtained certificate of title for a homestead under provisions of the former Dominion Land Act, may be granted right to enter for a second homestead within the prescribed areas.

Any member of His Majesty's forces who was a resident of the province previous to the time of his enlistment and who served in an actual theatre of war during the Great War may enter for a soldier grant within the prescribed areas.

A fee of \$10 is payable with each application for a homestead, second homestead or soldier grant and a further sum of \$40 shall be payable before obtaining title.

The areas included in the Edmonton, Peace River and Grande Prairie land agencies embrace practically all the available land for homestead purposes in the northern portion of the province north of the capital city and are generally held to be adaptable for the highest type of mixed farming.

Provision is made for leasing, for grazing, of lands which are unsuitable for agricultural purposes. These leases are granted to British subjects by birth, naturalization or repatriation, for a period of 10 years. Companies applying for leases must be incorporated under the laws of Canada or the province of Alberta with the president, vice-president and a majority of the directors British subjects.

Grazing leases are also granted on land of all classes located 50 miles from a railway, on condition that the lease may be cancelled by one year's notice after the lease has been held three years and after a railway has been graded and rails laid to within 10 miles of the leasehold. In unsurveyed areas, leases may be granted only to those who undertake surveys at their own expense.

Leases for 21 years will be granted on lands unfit for agricultural purposes where the granting of such leases will not injuriously affect the interests of any *bona fide* established industry in the district. Renewals for 21 years will be granted on present leases, provided the inspector finds that such lands are unfit for agriculture and that full use is being made of them for grazing purposes and that the granting of the extended lease will not injuriously affect any industry established.

No person or company is permitted to acquire by lease more than 25,000 acres. Provision is made for holding land in reserve for community grazing where such seems most desirable. Lessees of land are required to maintain stock in the proportion of one head of cattle or five head of sheep for every 30 acres and it is also required that at least 25 p.c. of the stock maintained shall be breeding stock.

Rentals are based on the value of the land and must be paid one year in advance.

Application for further details with respect to homestead and lease regulations on land available for homesteads, etc., should be made to the Deputy Minister of Lands and Mines, Edmonton, Alberta.

British Columbia.—In British Columbia there are large areas of free grant lands. Any British subject, being the head of a family, a widow, a *femme sole* who is over 18 years of age and self-supporting, a woman deserted by her husband or whose husband has not contributed to her support for 2 years, or a bachelor over 18 years of age, or any alien, on making a declaration of his intention to become a British subject, may pre-empt, free, 160 acres of unoccupied and unreserved surveyed Crown lands, not being an Indian settlement and not carrying more than 8,000 feet per acre of milling timber west of, and 5,000 feet per acre east of the Cascade range. Fees payable include \$2 for recording, \$2 for certificate of improvement and \$10 for Crown grant. Residence and improvement conditions are imposed and land can only be pre-empted for agricultural purposes. After occupation for 5 years and making improvements to the value of \$10 per acre, including clearing and cultivation of at least 5 acres, the pre-emptor may obtain certificate of improvement and Crown grant. The fact that an applicant has previously homesteaded in another province does not preclude him from pre-empting in British Columbia. Unsurveyed lands cannot be pre-empted.

Homesite lease of an area not exceeding 20 acres, surveyed or unsurveyed, may be obtained for occupation and cultivation—this being a provision to enable fishermen, miners or others to obtain homesites—at a small rental, under improvement conditions, including the building of a dwelling in the first year, title becoming procurable after 5 years' occupation and completion of survey.

Under the Land Act, vacant and unreserved Crown lands, surveyed or unsurveyed, may be purchased in quantities not exceeding 640 acres for agricultural purposes on improvement conditions. The Minister may require improvements to the value of \$5 per acre within 4 years of allowance of the sale, and Crown grant may be withheld until it is certified that improvements are made. The minimum price of first class (agricultural) lands is \$5 per acre; second class (grazing) lands \$2.50 per acre. The purchaser of surveyed lands is charged an additional 50 cents an acre for the survey; in the case of unsurveyed lands the applicant must have the area he applies for surveyed at his own cost.

Crown lands are leased, subject to covenants and agreements deemed advisable, for agricultural or industrial purposes—for hay-cutting up to 10 years for other purposes, except timber-cutting, up to 21 years; for any industrial or other special purpose, with approval of the Lieutenant-Governor in Council, for not over 99 years.

The Land Settlement Board has selected a number of land settlement areas contiguous to the Canadian National and Pacific Great Eastern Railways. Lands within these areas are sold on easy terms for farming purposes, conditional upon development, prices being usually from \$3 to \$10 an acre, a small cash payment being required and the balance spread over a term of years to suit the purchaser. British Columbia returned soldiers are entitled to abatement of \$500 on purchase price.

Timber-cutting rights are acquired by timber sale. The applicant locates the timber, and, application being made, the area is cruised, surveyed if necessary, and advertised for sale by tender. All particulars are obtainable from the Forest Branch, Department of Lands. Information regarding water rights for power, irrigation, etc., may be obtained by addressing the Water Rights Branch, Department of Lands.

The Railway Belt and Peace River Block were transferred to the Provincial Government on Aug. 1, 1930, so that the area of land administered by the province is now 238,483,200 acres,¹ of which about 14,945,400 acres have been alienated; about 12,350,000 acres are under reserve as timber, coal, grazing and other leases and licences; and about 16,700,000 in timber, park, Indian, game and other reserves. The total area surveyed at Dec. 31, 1931, was 33,522,973 acres, including 23,024,000 acres of land surveys, 9,179,620 acres of timber, 688,544 acres of coal lands, 28,548 acres of phosphate licences and 623,635 acres of mineral claims. The area included 1 cities is 73,950 acres, in district municipalities 906,753 acres, and in village municipalities 5,943 acres.

The area of the province is 238,483,200 acres,¹ of which 92,800,000 acres is above timberline and 91,432,100 acres is forested—39,352,000 acres carrying over 10,000 ft. b.m. per acre and 17,281,600 acres from 5,000 to 30,000 ft. b.m. per acre. The area suitable for agriculture is estimated at 22,608,000 acres. On Vancouver Island an area of 2,110,054 acres is included in the Esquimalt and Nanaimo Railway grant, embracing the southeastern portion of the island, and applications for lands in this area should be made to the land agent of that railway at Victoria.

Section 2.—National Defence.²

Before the outbreak of the war, the Canadian Militia consisted of a Permanent Force, which on Mar. 31, 1914, numbered 3,000 officers, non-commissioned officers and men, and an Active Militia, which at the same date numbered 5,615 officers and 68,991 non-commissioned officers and men. After the outbreak of the war on Aug. 4, 1914, successive contingents of troops of all arms were recruited, equipped, trained and dispatched by the Canadian Government to Great Britain for active service. When hostilities ceased on Nov. 11, 1918, there had been sent overseas, for active service in the Canadian Expeditionary Force, about 418,000 officers, non-commissioned officers and men.³

Organization.—Prior to 1922, three departments of the Canadian Government were concerned with the defence of Canada, *viz.*: the Department of Militia and Defence; the Department of the Naval Service; the Air Board.

¹As estimated by the provincial authorities. The Dominion estimate of the area of British Columbia is shown on p. 7 of this volume is 227,747,200 acres, of which 3,766,400 acres are covered with water.

²Revised by H. W. Brown, Asst. Deputy Minister, Department of National Defence.

³For the detailed expenditures of the Canadian Government on account of war appropriations in the fiscal years 1915–21, see the Canada Year Book, 1921, p. 798.

During the Session of 1922, the National Defence Act was passed, consolidating the Department of Militia and Defence, the Department of the Naval Service and the Air Board into the Department of National Defence. This Act became effective by proclamation on Jan. 1, 1923. Under it there is a Minister of National Defence and a Deputy Minister of National Defence. To advise the Minister there has been constituted, by Order in Council, a Defence Council consisting of a President (the Minister), a Vice-President (the Deputy Minister), and the following members: the Chief of the General Staff, the Chief of the Naval Staff, together with the Adjutant-General, the Quartermaster-General and the Director, Royal Canadian Air Force, as associate members. There is also a Secretary of the Council.

Subsection 1.—The Naval Service.

The Naval Service of Canada was established by the Naval Service Act, 1917 (9-10 Edw. VII, c. 43), the main provisions of which were described in the Year Book of 1910, pp. xxvi-xxix.

The Department of Naval Service was amalgamated with the Department of Militia and Defence and the Canadian Air Board, to form the Department of National Defence, in 1922.

The Royal Canadian Navy and its Reserve Forces are under the direction of the Chief of the Naval Staff, who is a member of the Defence Council. The Naval Service consists of:—

1. Royal Canadian Navy (permanent).
2. Royal Canadian Naval Reserve (non-permanent).
3. Royal Canadian Naval Volunteer Reserve (non-permanent).

Administrative and operational staff for all three forces is provided from the Royal Canadian Navy.

Royal Canadian Navy.—The Royal Canadian Navy has an authorized complement of 104 officers and 792 ratings. A large majority of the men of the R.C.N. are serving under 7-years' engagements. A small and steadily decreasing proportion consists of specialist gunnery, torpedo, and engine-room ratings, loaned from the Royal Navy (in 1932 this proportion amounted to only 4.1 p.c.).

A proportion of the officers of the Royal Canadian Navy serves periodically in ships of the Royal Navy, to acquire experience in capital ships, cruisers, etc., and training courses are arranged for selected officers at the instructional schools of the Royal Navy to qualify in war staff, gunnery, torpedo, wireless and other duties. Courses for selected men in the gunnery, torpedo, wireless telegraph and mechanical training schools of the Royal Navy are similarly arranged.

The ships of the Royal Canadian Navy are:—

- H.M.C.S. *Saguenay* (destroyer—in commission).
- H.M.C.S. *Skeena* (destroyer—in commission).
- H.M.C.S. *Champlain* (destroyer—in commission).
- H.M.C.S. *Vancouver* (destroyer—in commission).
- H.M.C.S. *Armentières* (minesweeper—in commission).
- H.M.C.S. *Festubert* (minesweeper—in commission).
- H.M.C.S. *Ypres* (minesweeper—in commission).

Naval training establishments, comprising: naval barracks; gunnery drill sheds, with all modern appliances for teaching gun-laying, sight-setting, etc.; torpedo and electrical schools; parade grounds; and other equipment, are maintained at Halifax and Esquimalt. Naval dockyards, with work shops, etc., for fitting and supplying necessary stores to H.M.C. ships, are also maintained at Halifax and Esquimalt.

Royal Canadian Naval Reserve.—The establishment of the Royal Canadian Naval Reserve is 70 officers and 430 men recruited from amongst sea-faring personnel. Officers have been appointed to act as registrars at Halifax, Charlottetown, Quebec, Montreal, Vancouver.

Officers and men of the Royal Canadian Naval Reserve attend naval training at Halifax and Esquimalt for 42 days for the first year of enrolment and for 14 days annually or biennially thereafter. They are permitted to volunteer for service on board up to a maximum of six months during each period of enrolment. The period of enrolment in the Royal Canadian Naval Reserve is five years.

Royal Canadian Naval Volunteer Reserve.—The establishment of the Royal Canadian Naval Volunteer Reserve is 70 officers and 930 men, distributed as follows: Halifax (half company); Saint John (half company); Charlottetown (half company); Quebec (half company); Montreal (company); Ottawa (half company); Toronto (company); Hamilton (half company); Winnipeg (company); Saskatoon (half company); Regina (half company); Edmonton (half company); Calgary (half company); Vancouver (half company); Prince Rupert (half company).

Each company or half company is under the immediate command of an officer of the R.C.N.V.R., appointed as company commanding officer. The company commanding officer is assisted by other commissioned officers of the force.

A petty officer instructor (a highly qualified ex-petty officer of the Royal Navy or of the Royal Canadian Navy) is employed at each company headquarters to give instruction to men of the company in gunnery, torpedo, seamanship and other naval subjects.

Each officer and man of the R.C.N.V.R., performs annually a minimum of 30 drills of not less than one hour's duration at company headquarters. In actual practice 40 to 50 drills have been performed annually by each member of the company. Officers and men also attend from two to three weeks naval training annually at the naval bases at Halifax or Esquimalt, or at sea in H.M.C. or H.M. ships.

Officers and men who can obtain the necessary leave of absence are permitted to perform a maximum of four months' voluntary service during each period of enrolment, and a large number have availed themselves of this opportunity of gaining extended naval experience under sea-going conditions. The period of enrolment and of re-enrolment in the R.C.N.V.R. is three years.

Subsection 2.—Military Forces.

The Militia of Canada is constituted by the Militia Act. The Active Militia is divided into the Permanent and the Non-Permanent Militia.

Permanent Militia.—The Permanent Force consists of the following units:

Cavalry.—The Royal Canadian Dragoons; Lord Strathcona's Horse (Royal Canadians).
 Artillery.—The Royal Canadian Horse Artillery Brigade ("A", "B" and "C" Batteries); Royal Canadian Artillery (Nos. 1, 2 and 5 Heavy Batteries and No. 3 Medium Battery).
 Engineers.—Royal Canadian Engineers (13 detachments).
 Signals.—The Royal Canadian Corps of Signals.
 Infantry.—The Royal Canadian Regiment; Princess Patricia's Canadian Light Infantry; The Royal 22nd Regiment (a French-Canadian regiment).
 Army Service Corps.—The Royal Canadian Army Service Corps (12 detachments).
 Medical Corps.—The Royal Canadian Army Medical Corps (12 detachments).
 Veterinary Corps.—The Royal Canadian Army Veterinary Corps (8 detachments).
 Ordnance Corps.—The Royal Canadian Ordnance Corps (12 detachments).
 Pay Corps.—The Royal Canadian Army Pay Corps (12 detachments).
 Military Clerks.—The Corps of Military Staff Clerks (12 detachments).

The strength of the Permanent Active Militia is limited by the Amendment to the Act of 1919 to 10,000, but at present the limited establishment is less than 3,800.

Schools of Instruction.—The Canadian Small Arms School is the only school of instruction which is an independent unit of the Permanent Force, but at all stations of the Permanent Force in Canada there are conducted Royal Schools of Instruction.

Non-Permanent Militia.—The Non-Permanent Militia consists of:—

35 Regiments of Cavalry and Mounted Rifles.
 75 Field Batteries, Canadian Artillery.
 15 Medium Batteries, Canadian Artillery.
 11 Heavy Batteries, Canadian Artillery.
 3 Anti-Aircraft Sections, Canadian Artillery.
 15 Field Companies of Engineers.
 2 Fortress Companies of Engineers.
 7 Field Troops of Engineers.
 10 Divisional Signals.
 2 Fortress Signal Companies.
 7 Signal Troops.
 22 Contingents, Canadian Officers' Training Corps.
 123 Battalions of Infantry.
 15 Machine Gun Units.
 12 Divisional Trains, Canadian Army Service Corps.
 51 Units of the Canadian Army Medical Corps.
 11 Detachments of the Canadian Dental Corps.
 11 Detachments of Canadian Army Veterinary Corps.
 11 Detachments of the Canadian Ordnance Corps.
 12 Detachments and 1 Base Post Office of the Canadian Postal Corps.

The total establishment of the Non-Permanent Militia is 9,071 officers and 118,500 other ranks, as shown in the following table:—

2.—Permanent and Non-Permanent Active Militia in Canada, 1931.

Arm of Service.	Permanent Active Militia.		Non-Permanent Active Militia.	
	Personnel.	Horses.	Personnel.	Horses.
	No.	No.	No.	No.
Staff and General List.....	47	—	—	—
Cavalry and Mounted Rifles.....	415	277	14,297	9,311
Field Artillery.....	409	152	9,131	4,411
Medium Artillery.....	51	—	1,993	—
Heavy Artillery and Anti-Aircraft Sections.....	242	2	1,430	—
Engineers.....	273	16	3,421	—
Signals.....	291	2	4,616	2,111
Railway Corps.....	—	—	363	—
Infantry.....	906	31	75,148	—
Officers' Training Corps.....	—	—	4,316	—
Machine Gun Corps.....	—	—	6,516	—
Army Service Corps.....	274	48	1,245	—
Non-Combatants.....	880	—	5,095	—
Totals.....	3,788	528	127,571	20,000

Reserve Militia.—In addition to the Active Militia, there is also the Reserve Militia, a framework designed to serve as a basis for contingent military organization. Drill and training are voluntary and entail no expense to the public.

The reserve formations of the Active Militia, as distinguished from the Reserve Militia mentioned above, comprise:—

- The Reserve of Officers (general list).
- Reserve unit for each active unit.
- Reserve Regimental Depots (Cavalry and Infantry).

The reserve units of the Active Militia are intended for the purpose of providing the organization of the officers and men who have completed their service in the Active Militia or who have otherwise received a military training.

On completion of service in the Active Militia men are not posted automatically to reserve units. These units are recruited by specific enlistment.

Military Districts.—For the command, training and administration of the Canadian Militia, Canada is divided into 11 military districts, each under a commander assisted by a district staff.

Militia Appropriations.—The Militia appropriations for the six fiscal years ended Mar. 31, 1927-32, are shown in Table 3.

—Money Voted by Parliament for the Militia, fiscal years ended Mar. 31, 1927-32.

Item.	1927.	1928.	1929.	1930.	1931.	1932.
	\$	\$	\$	\$	\$	\$
Administration.....	325,000	341,000	349,000	349,000	345,000	332,000
Post Services.....	400,000	500,000	500,000	500,000	500,000	400,000
Contingencies.....	32,000	43,000	44,000	44,000	44,000	44,000
Engineer Service and Works	566,000	803,900	830,000	830,000	830,000	736,000
General Stores.....	462,000	682,799	988,800	988,800	1,000,300	683,000
Manufacturing Establish- ments.....	420,000	472,395	587,000	587,000	587,000	550,000
—Permanent Active Mi- litia.....	1,712,000	2,059,800	2,309,000	2,301,100	2,324,500	2,006,000
—Permanent Force.....	4,860,000	4,887,500	5,038,000	5,045,900	5,011,000	5,050,000
—Royal Military College.....	365,000	365,000	375,000	375,000	375,000	386,000
—Geographic Survey.....	35,000	40,000	45,000	45,000	45,000	45,000
Totals.....	9,177,000	10,195,394	11,065,800	11,065,800	11,061,800	10,232,000
—Civil Government.....	763,889 ¹	808,010 ¹	800,505 ¹	850,755 ¹	849,860 ¹	832,230 ¹
Grand Totals.....	9,940,889	11,003,404	11,866,305	11,916,555	11,911,660	11,064,230

¹Department of National Defence.

Subsection 3.—Air Services.

Under the Act creating the Department of National Defence, the powers, duties and functions vested in the Air Board by the Air Board Act of 1919 are now administered under the direction of the Minister of National Defence.

The Air Services have three functions:—

- (1) The air defence of the country.
- (2) The conduct of flying operations for the civil departments of the Government.
- (3) The control of civil aviation.

On July 1, 1927, the Air Services, which up to that date had been administered by the Director, Royal Canadian Air Force, under the Chief of Staff, were reorganized and divided into two divisions, as follows:—

(a) **Military.**

Royal Canadian Air Force.—The Royal Canadian Air Force, under the Chief of the General Staff, administers and controls all military air operations. The functions of the Royal Canadian Air Force are as follows:—

- (a) To provide adequate training facilities for all Government Air Services.
- (b) To provide a nucleus air force around which service units can be formed in the event of war.
- (c) To build up a reserve of pilots and mechanics.

The principal station of the Royal Canadian Air Force is at Camp Borden, Ontario, with other units at Vancouver, B.C. and Trenton, Ont.

The R.C.A.F. Station, Camp Borden, provides training for officers and airmen of the permanent and non-permanent personnels of the R.C.A.F., and also summer training for provisional pilot officers. Training is also provided, and training personnel supplied, to the Civil Division of the Air Services. The training covers flying and ground subjects, co-operation with military services, and such other courses of instruction as may be necessary.

The R.C.A.F. Station, Vancouver, provides a seaplane training base for the Royal Canadian Air Force, as the R.C.A.F. Station, Camp Borden, provides training on land machines only.

The strength of the Royal Canadian Air Force, as at Dec. 31, 1931, was 11 officers and 709 other ranks.

(b) **Civil.**

To meet the growing needs of civil aviation, the following three branches were organized, under the Deputy Minister:—

Civil Government Air Operations.—This Branch is charged with the carrying out of all air operations required by any Dominion Government service, including the forest protection, survey and other miscellaneous work now carried out for Departments of the Interior, Mines, Agriculture, Indian Affairs, National Revenue, Public Works, Railways and Canals, Marine, Fisheries, etc. The headquarters of the Branch is at Ottawa, and its operating bases are as follows:—*main bases:* Winnipeg, Man.; Ottawa, Ont.; *sub-bases:* Lac-du-Bonnet, Cormorant Lake, Ladder Lake, Man.; Fitzgerald, Alta. Eleven mobile photographic detachments and three mobile general purpose detachments undertake air photography and transportation respectively in all provinces.

The central stores and workshops for the Civil Division are administered as part of this Branch. These are located at Victoria Island, Ottawa.

Control of Civil Aviation.—The duties of this Branch include the inspection, licensing and registration of aircraft, airharbours, commercial and private pilots, air engineers and air navigators. In addition to these duties, the location and construction of air routes and matters connected with airship services are administered in this Branch.

Civil aviation in the Dominion has had its chief development in connection with the exploration and conservation of the natural resources of the various provinces, including forest protection, aerial photography and the transport of men and supplies to remote points and mining districts. Nineteen regular air mail routes are now in operation.

On Dec. 31, 1931, there were in force certificates and licences as follows: private pilots, 292; commercial air pilots, 366; air engineers, 346; registration of aircraft, 105; airharbour licences, 78. (See also "Air Navigation", pp. 575-577, in the chapter on Transportation and Communications.)

Aeronautical Engineering.—The Branch undertakes the technical duties for both Military and Civil Divisions. The Chief Aeronautical Engineer acts as Consulting Engineer to the Department of National Defence and is responsible for all questions of design, airworthiness of aircraft, equipment, works and buildings and other similar technical duties.

Subsection 4.—The Royal Military College.

The Royal Military College of Canada was founded in 1876 by the Honourable Alexander Mackenzie, Prime Minister of Canada. Since its foundation, 2,264 gentlemen cadets have been enrolled, and of this number 198 are now in attendance.

The Royal Military College has a very distinguished record in connection with the War. Of the 914 graduates and ex-cadets who served, 353 were granted commissions direct from the College, and 43 enlisted with a view to obtaining commissions; 156 ex-cadets were reported as killed in action, died of wounds, or missing. Ex-cadets of the College won the following honours and decorations: Victoria Cross and 3 recommendations for the Victoria Cross, 106 Distinguished Service Orders, 109 Military Crosses, 2 Distinguished Flying Crosses, 62 other British decorations, 42 foreign decorations. Three Canadian and one Australian divisions were commanded by graduates of the College.

Ex-cadets who have served in the Army, either in the regular forces or during the Great War, include 1 general, 5 lieutenant-generals, 17 major-generals, and 9 brigadier-generals or brigadiers. Eleven knighthoods have been conferred on ex-cadets for distinguished service.

The establishment of the College, as stated in the Act of 1874 (37 Vict., c. 33), was "for the purpose of imparting a complete education in all branches of military tactics, fortifications, engineering and general scientific knowledge in the subjects connected with and necessary to a thorough knowledge of the military profession, and for qualifying officers for command and staff appointments". In addition to the foregoing, the course of instruction is such as to afford a thorough practical and scientific training in civil engineering, surveying, physics and chemistry, English and French. Strict discipline, combined with physical training, riding, drill and outdoor games, forms part of the curriculum.

The College is situated on a beautiful peninsula, one mile from Kingston, with the Cataraqui river emptying into the St. Lawrence river at its junction with Lake Ontario on the one side, and Navy bay on the other. The grounds include about 500 acres. The buildings of the College proper are situated on the above-mentioned peninsula, comprising 60 acres. The remainder of the grounds, on which stands the historic Fort Henry, is at the disposal of the College for use as a training area. On the point of the College peninsula is situated Fort Frederick, built in

1837 when Kingston became the capital of Canada, the fort comprising a portion of the defences of Kingston. The College is under the supervision of the Department of National Defence, and is inspected annually by an advisory board composed of leading Canadian citizens, both civil and military, which makes its reports and recommendations to the Minister of National Defence. The staff is composed of a commandant, a staff-adjutant, and a competent staff of civil and military professors and instructors.

A four years' course leads to a "diploma with honours" or "diploma" or "certificate of military qualification". A number of commissions in the Canadian Permanent Force and the Royal Canadian Air Force, as well as commissions in the British Regular Forces, the Indian Army, and the Royal Air Force, are offered annually to graduates; and for cadets who desire to obtain commissions in the Royal Canadian Navy a limited number of naval cadetships are available each year to cadets who successfully complete the first two years' studies and who were under 18 years of age at the time of entry into the College. In addition, an inspector's commission in the Royal Canadian Mounted Police is open each year to a graduate. To those graduates joining the British Army, the privilege of one year's seniority is granted in the British or Indian Armies. This has been arranged in order to equalize the seniority of graduates of the Royal Military College of Canada with those of the Royal Military Academy, Woolwich or the Royal Military College, Sandhurst, since the courses at the latter institutions are shorter than the Canadian.

The principal Canadian universities admit recommended graduates to the fourth year of their civil engineering courses and to the third year of other engineering courses; and some of the universities admit graduates to the third years of arts and science courses.

The R.M.C. diploma is accepted by the Law Societies and Bar Association of Ontario, Nova Scotia, Quebec, Manitoba, Saskatchewan, British Columbia and Alberta, as the equivalent of a B.A. degree for admission to the study of law. The Dominion Association of Chartered Accountants likewise accepts R.M.C. graduates as registered students under the same conditions as university graduates.

Entrance to the College is on a competitive basis. Candidates are required to pass a rigid medical examination, and to have obtained junior matriculation or an acceptable equivalent.

Applications for admission to the College should reach The Secretary, Department of National Defence, Ottawa, before May 31 of each year.

Section 3.—Public Works.¹

Since Confederation and before, the constructing department has been known as the Department of Public Works. In 1879 the railways and canals were placed under the control of a new department, the building and maintenance of penitentiaries were transferred to the Department of Justice, the maintenance and construction of lighthouses to the Marine and Fisheries Department, and the smaller drill halls and armouries to the Department of National Defence. The work of the Department of Public Works is now divided into three principal branches, *viz.*, the Engineering Branch, the Architect's Branch and the Telegraph Branch.

¹Revised by J. M. Somerville, Assistant Secretary, Department of Public Works.

Engineering.—The Engineering Branch conducts the construction and repair of wharves, piers, breakwaters, dams, weirs, bank and beach protection works; the improvement of harbours and rivers by dredging; the construction, maintenance and operation of Government dredging plant; the construction and maintenance of graving docks; the construction and maintenance of interprovincial bridges and approaches thereto, also of bridges on highways of national importance in the Northwest Territories; the maintenance of military roads, also hydrographic and ordinary surveys and examinations, inclusive of some precise levelling and geodetic measurements which are required for the preparation of plans, reports and estimates; river gaugings and metering; the testing of cements and materials of construction; the licensing of international and interprovincial ferries; and the control of works constructed in or over navigable waters by authority of the Navigable Waters Protection Act.

Architecture.—The Architect's Branch constructs and maintains Government buildings, post offices, customs houses, examining warehouses, and constructs quarantine, immigration and experimental farm buildings, armouries, military hospitals and drill halls, and telegraph offices.

Telegraphs.—The Telegraph Branch has control over the construction, repair and maintenance of all Government-owned telegraph lines and cables. These lines are located in the provinces of Nova Scotia, New Brunswick, Quebec, Ontario, Saskatchewan, Alberta, British Columbia and the Yukon. (See also pp. 604-607.)

Graving Docks.—There are 5 graving or dry docks built and owned by the Canadian Government. The dimensions of these docks are shown in Table 4. The dock at Kingston, Ontario, is under lease to the Kingston Shipbuilding Company. The dock at Lauzon, Quebec, east of the old dock, is 1,150 feet long, divided into two parts (650 and 500 feet respectively) and 120 feet wide with depth of 40 feet at high water. It cost about \$3,850,000. Under the Dry Dock Subsidies Act, 1910 (9-10 Edw. VII, c. 17), several docks have been subsidized by payments of 3 or 3½ p.c. per annum on the original cost for a given number of years, as shown in Table 5.

4.—Dimensions of Graving Docks Owned by the Dominion Government.

Location.	Length.	Width at—			Depth of Water on Sill.	Rise of Tide.	
		Coping.	Bottom.	Entrance.		Spring.	Neap.
	ft.	ft.	ft.	ft.	ft.	ft.	ft.
Lauzon, Que. "Champlain".....	1,150	144	105	120	40-0 H.W.	18	13-3
Lauzon, Que. "Lorne".....	600-3	100	59-5	62	25-8 H.W.	18	13-3
Esquimalt, B.C. (old dock).....	450-7	90	41	65	29-0 H.W.	7 to 10	3 to 8
Esquimalt, B.C.....	1,150	149	126	135	40-0 H.W.	7 to 10	3 to 8
Kingston, Ont.....	343-6	79	47	55	16-0	—	—

5.—Dimensions and Cost of Graving Docks Subsidized under the Dry Dock Subsidy Act, 1910.

Location.	Length.	Width.	Depth over Sill.	Total Cost.	Subsidy.
	ft.	ft.	ft.	\$	
Collingwood No. 1, Ont.....	515-8	59-8	14-8	500,000	3 p.c. for 20 years.
Collingwood No. 2, Ont.....	413-2	95	19-2	306,965	3 p.c. for 20 years.
Port Arthur, Ont.....	708-3	77-6	16-2	1,258,050	3 p.c. for 20 years.
Montreal, Que., floating dock, "Duke of Connaught"	601	100	31-5	3,000,000	3½ p.c. for 35 years.
Prince Rupert, B.C. (floating dock).....	600	100	32	2,199,168	3½ p.c. for 35 years.
Saint John, N.B.....	1,150	133	40	5,500,000	4½ p.c. for 35 years.
North Vancouver, B.C. (floating dock).....	556-5	98	28	2,500,000	4½ p.c. for 35 years.

Expenditure and Revenue.—Table 6 shows the expenditure and revenue of the Public Works Department of the Dominion Government, for the fiscal year 1926-1931. For the fiscal year 1931 the expenditure was \$33,371,613, as compared with \$25,607,523 in 1930—an increase of \$7,764,090, largely accounted for by expenditures for harbours and rivers, dredging and public buildings.

6.—Expenditure and Revenue of the Public Works Department for the fiscal year ended Mar. 31, 1926-31.

EXPENDITURE (exclusive of Civil Government Appropriations).

Item.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Harbour and river works...	6,296,293	3,835,914	4,198,905	5,230,360	7,980,558	11,785,500
Dredging plant, etc.....	2,350,225	1,918,798	2,879,559	3,106,638	3,310,953	4,305,100
Roads and bridges.....	304,074	9,717	38,629	38,896	84,495	190,300
Airports.....	—	—	84,251	540,976	780,144	93,200
Public buildings.....	7,778,324	6,984,720	8,252,449	9,902,676	12,304,578	15,792,500
Telegraphs.....	856,144	802,495	840,451	893,888	885,871	928,900
Miscellaneous.....	245,061	199,309	302,170	236,042	260,924	275,800
Totals.....	17,830,121	13,750,953	16,596,414	19,948,576	25,607,523	33,371,613

REVENUE.

	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$
Graving docks.....	85,382	120,402	87,322	102,065	121,909	117,700
Rents.....	130,594	96,315	101,571	97,114	116,697	103,300
Telegraphs.....	294,181	309,488	298,663	356,485	356,469	242,400
Casual revenue.....	154,535	108,605	98,435	83,311	67,130	93,300
Ferries.....	4,543	1,048	1,361	1,358	1,318	2,800
Totals.....	669,235	635,858	587,352	640,333	663,523	559,600

Section 4.—The Indians and Eskimos of Canada.

Subsection 1.—The Indians of Canada.¹

The Indians of Canada who are wards of the Department of Indian Affairs number about 108,012, their numbers varying slightly from year to year. A small yearly increase is evident, however, and the popular notion that the race is disappearing is unfounded.

¹Revised by T. R. L. MacInnes, Acting Secretary, Department of Indian Affairs.

appearing is not in accordance with facts. Before they were subjected to the degenerating effects of European civilization and the devastating results of the many colonial wars, the numbers of the Indians were undoubtedly larger, but any reliable information as to the aboriginal population during either the French or the early British régime is non-existent, and there is no adequate basis for a comparison between the past and present aboriginal populations. An interesting sketch of the progress of the Indians of Canada since Confederation will be found in the Report of the Department of Indian Affairs, 1927.

Administration.—Indians are minors under the law, and their affairs are administered by the Department of Indian Affairs under the authority of the Indian Act. This Department is the oldest governmental organization in the Dominion, dating back to the time of the conquest. It was originally under the military authorities, and did not become a part of the civil administrative machinery until 1845. By section 5 of the British North America Act, 1867, the Indians of Canada and the lands reserved for them came under the control of the Dominion Government, and in 1873 an Act of the Canadian Parliament (R.S.C., c. 81) provided that the Minister of the Interior should be Superintendent-General of Indian Affairs and as such have the control and management of the lands and property of the Indians in Canada. The aim of the Department of Indian Affairs is the advancement of the Indians in the arts of civilization, and agents have been appointed to encourage the Indians under their charge to settle on the reserves and to engage in industrial pursuits.

The system of reserves, whereby particular areas of land have been set apart solely for the use of Indians, has been established in Canada from the earliest times. It was designed in order to protect the Indians from encroachment, and to provide a sort of sanctuary where they could develop unmolested until advancing civilization had made possible their absorption into the general body of the citizens.

Reserves have been set aside for the various bands of Indians throughout the Dominion, and the Indians located thereon are under the supervision of the local agents of the Department. The activities of the Department, as guardian of the Indians, include the control of Indian education, health, etc., the development of agriculture and other pursuits among them, the administration of their funds and legal transactions and the general supervision of their welfare.

The local administration of the Indian bands on the reserves scattered throughout the Dominion is conducted through the Department's agencies, of which there are in all 116. The number of bands included in an agency varies from one to more than 30. The staff of an agency usually includes various officers in addition to the agent, such as medical officer, clerk, farm instructor, field matron, constable, stockman, etc., according to the special requirements of the agency in question. The work of the agencies is supervised by the Department's inspectors, each inspector having charge of a certain number of agencies. Expenditures upon destitute Indians are made by the Dominion Government, either from public funds or from the tribal funds of the Indians themselves.

The Indian Act provides for the enfranchisement of Indians. When an Indian is enfranchised he ceases to be an Indian under the law and acquires the full status of citizenship. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem, as Indians who become enfranchised lose the special protection attached to their wardship, so that it is necessary to guard against premature enfranchisement.

Treaties.—In the older eastern provinces, the history of the Indians has been one of slow development with that of the community. In western Ontario and the Prairie Provinces the situation has been different. There the rapid spread of civilization made it necessary to take prompt and effective measures to protect the moral claims of the Indians, which are recognized by the Government. Accordingly, treaties were entered into with the Indians, whereby the latter ceded to the Crown their aboriginal title and interest in the country. In consideration of such cession the Crown agreed to set aside adequate reserves, make cash grants, provide per capita annuities, give assistance in agriculture, stock raising, hunting, trapping, etc., as particular circumstances might require, provide education for the Indian children, and otherwise safeguard the Indians' interests. These treaties have been made from time to time as occasion arose and as new territories were opened up. No treaty has been made with the Indians of British Columbia, but their welfare has received no less attention from the Government on that account.

Government Expenditure.—On Mar. 31, 1931, the capital of the Indian Trust Fund, which a year earlier had amounted to \$13,856,521, had decreased to \$13,764,581. The amounts expended from the Consolidated Revenue Fund were as follows: voted by Parliament for the purposes of the Department, \$4,644,677; annuities by statute, \$222,143.

Statistics.—Statistical tables of population, school attendance, income and agricultural activities of the Indians in Canada follow. In Table 7 the population for 1871-1931 are compiled from reports of the various censuses since Confederation while the statistics and other information in the remaining tables are taken from the latest Annual Report of the Department of Indian Affairs. The Department of Indian Affairs takes a quinquennial census of Indians under its control, *i.e.*, those who are wards of the Department, whereas census figures include all persons of Indian origin. For 1929 the Department reported that such Indians increased in number from 104,894 in 1924 to 108,012, or by nearly 3 p.c. in the quinquennium. The figures of the decennial census include some thousands of persons of Indian race who are living off the reserves as ordinary citizens of Canada.

7.—Indian Population of Canada at the Decennial Censuses of 1871-1931.

Province or Territory.	1871. ¹	1881. ¹	1891. ²	1901.	1911.	1921.	1931. ³
Prince Edward Island.....	323	281	314	258	248	235	222
Nova Scotia.....	1,666	2,125	2,076	1,629	1,915	2,048	2,111
New Brunswick.....	1,403	1,401	1,521	1,465	1,541	1,331	1,668
Quebec.....	6,988	7,515	13,361	10,142	9,993	11,566	12,333
Ontario.....	12,978	15,325	17,915	24,674	23,044	26,436	30,366
British Columbia.....	23,000	25,661	34,202	28,949	20,134	22,377	24,555
Manitoba.....	56,000	56,239	51,249	16,277	7,876	13,869	15,333
Saskatchewan.....				26,304	11,718	12,914	15,200
Alberta.....				14,921	11,630	14,557	15,222
Yukon Territory.....					1,489	1,390	1,555
Northwest Territories.....					15,904	3,873 ⁴	4,000
Totals.....	102,358	108,547	120,638	127,941³	105,492	110,596	122,985

¹Census figures in the organized provinces and estimates for the rest of Canada.

²Racial origin not taken in 1891; the figures have been taken from the report of the Department of Indian Affairs of that year.

³Includes 34,481 "half breeds".

⁴The smaller Indian population of the Northwest Territories in 1921 is to be ascribed to the extension of the boundaries of Quebec, Ontario and Manitoba in 1912. This also accounts for the increase in the 1921 Indian population of these provinces.

Indian Education.—The educational work of the Department is now very extensive. In the fiscal year ended Mar. 31, 1931, a total of 352 Indian schools were in operation, including 80 residential schools for Indians with an enrolment of 7,831, and 264 day schools for Indians with an enrolment of 8,425 Indian pupils, also 8 combined public and Indian schools, with 159 Indian pupils enrolled. The total enrolment in the Indian schools has increased from 12,799 in 1915-16 to 16,415 in 1930-31 and the average attendance from 8,080 to 12,231, or from 63·1 p.c. to 74·5 p.c. of the enrolment. Continuation and high school work is now being taught in several of the day and residential schools. The amount spent on Indian education in the fiscal year ended Mar. 31, 1931, was \$2,754,395.

Enrolment and Average Attendance of Pupils at Indian Schools, fiscal years ended Mar. 31, 1916-31.

Fiscal Year.	Residential Schools.		Day Schools.		Total.		Percentage of Attendance.
	Enrolment.	Average Attendance.	Enrolment.	Average Attendance.	Enrolment.	Average Attendance.	
1916.....	4,661	4,029	8,138	4,051	12,799	8,080	63·1
1917.....	4,520	4,149	7,658	4,136	12,178	8,285	68·0
1918.....	4,692	4,081	7,721	3,797	12,413	7,878	63·5
1919.....	4,640	4,014	7,312	3,587	11,952	7,601	63·6
1920.....	4,719	4,133	7,477	3,516	12,196	7,649	62·7
1921.....	4,783	4,143	7,775	3,931	12,558	8,074	64·3
1922.....	5,031	4,360	7,990	4,308	13,021	8,668	66·6
1923.....	5,347	4,695	8,376	4,411	13,723	9,106	66·4
1924.....	5,673	4,856	8,199	4,332	13,872	9,188	66·2
1925.....	6,031	5,278	8,191	4,601	14,222	9,879	69·5
1926.....	6,327	5,658	8,455	4,940	14,782	10,598	71·7
1927.....	6,641	5,881	8,069	4,660	14,710	10,541	71·7
1928.....	6,795	6,043	8,223	4,823	15,018	10,866	72·4
1929.....	7,075	6,282	8,272	4,976	15,347	11,258	73·4
1930.....	7,302	6,476	8,441	5,103	15,743	11,579	73·6
1931.....	7,831	6,917	8,584	5,314	16,415	12,231	74·5

Economic Advancement of the Indians in the Past Decade.—The Indians of Canada have made remarkable progress in economic status during the past decade. When the fact is kept in mind that the Indians, unlike the whites, are not increasing rapidly in numbers, the significance of the figures which follow will be better appreciated. The area of the land under cultivation by Indians was 37,228 acres in 1931, as compared with 173,198 acres in 1916. Their live stock in 1930 included 39,430 horses and 50,012 cattle, as compared with 35,315 horses and 17,188 cattle in 1916. The total income of the Indians was \$8,138,489 in 1930, as compared with \$6,241,497 in 1916. If the Department's annual estimate of the number of Indians is used, the per capita figure of income is \$75 in 1930 as compared with \$59 in 1916. Information showing the acreage and value of Indian lands in 1931, the crops raised in 1930, the live stock owned by Indians in 1930, the sources and values of the income of Indians in 1930, is given by provinces in Tables 10 to 12.

9.—Acreage and Value of Indian Lands, by Provinces, 1931.

Province.	Total Acreage of Reserves.	Land Cleared but not under Cultivation.	Land under Cultivation.	Value of Lands.
	acres.	acres.	acres.	\$
Prince Edward Island.....	1,668	424	318	20,000
Nova Scotia.....	19,194	2,533	852	102,420
New Brunswick.....	37,752	1,123	428	78,000
Quebec.....	193,941	19,687	11,608	1,529,800
Ontario.....	1,009,199	79,220	59,201	4,938,400
Manitoba.....	474,653	124,649	14,006	3,025,220
Saskatchewan.....	1,368,662	768,034	52,193	14,318,150
Alberta.....	1,281,030	870,897	72,394	18,190,300
British Columbia.....	734,720	261,189	26,228	12,587,400
Yukon.....	—	—	—	—
Totals.....	5,129,719	2,127,756	237,228	54,790,720

10.—Areas and Yields of Principal Field Crops of Indians, by Provinces, 1930

Province.	Wheat.		Oats.		Other Grains.	
	acres.	bush.	acres.	bush.	acres.	bush.
Prince Edward Island.....	20	210	70	1,320	—	—
Nova Scotia.....	—	—	60	922	5	—
New Brunswick.....	2	20	113	1,685	19	260
Quebec.....	160	1,722	1,694	30,563	319	3,820
Ontario.....	1,400	20,346	12,449	285,942	3,380	75,660
Manitoba.....	2,343	38,835	2,805	57,496	3,048	34,440
Saskatchewan.....	16,663	277,173	10,820	232,609	4,547	78,490
Alberta.....	20,082	258,195	7,504	152,021	961	17,880
British Columbia.....	2,138	41,043	3,220	64,215	204	2,880
Yukon and N.W.T.....	—	—	—	—	—	—
Totals.....	42,808	637,544	38,735	826,773	12,483	213,330

Province.	Peas, Beans, etc.		Potatoes.		Other Roots.		Fodder Hay culti- vated, wheat, etc.
	acres.	bush.	acres.	bush.	acres.	bush.	tons.
Prince Edward Island.....	—	—	20	1,550	1	300	—
Nova Scotia.....	18	156	169	4,337	25	789	60
New Brunswick.....	10	117	76	3,920	16	1,707	10
Quebec.....	118	791	928	19,442	56	2,416	4,300
Ontario.....	746	10,827	1,908	67,310	914	20,385	28,000
Manitoba.....	—	—	470	37,960	48	1,170	21,000
Saskatchewan.....	—	—	330	19,247	62	2,590	33,900
Alberta.....	—	—	266	14,083	52	1,765	22,000
British Columbia.....	413	8,802	1,720	158,891	369	23,582	22,000
Yukon and N.W.T.....	—	—	—	15	—	—	—
Totals.....	1,305	20,694	5,887	32,675	1,543	54,704	133,200

11.—Numbers of Farm Live Stock of Indians, with Total Value, by Provinces, 1930.

Province.	Horses.	Cattle.	Poultry.	Value of Live Stock and Poultry
	No.	No.	No.	\$
Prince Edward Island.....	16	28	150	2,300
Nova Scotia.....	44	230	607	13,000
New Brunswick.....	24	50	322	5,000
Quebec.....	721	3,790	11,154	123,000
Ontario.....	4,439	13,121	71,513	617,400
Manitoba.....	2,362	3,411	4,937	262,300
Saskatchewan.....	6,179	7,674	12,230	559,200
Alberta.....	14,819	9,179	5,480	571,100
British Columbia.....	10,826	12,529	29,291	809,700
Yukon and N.W.T.....	—	—	—	—
Totals.....	39,430	50,012	135,684	2,964,000

12.—Sources and Values of Income of Indians, by Provinces, 1930.

Province.	Value of—			Re- ceived from Land Rentals.	Earned by—			Total Income of Indians. ¹
	Farm Products, including Hay.	Beef Sold or Used for Food.	Wages Earned.		Fishing.	Hunting and Trapping.	Other Indus- tries.	
	\$	\$	\$	\$	\$	\$	\$	\$
E.I.....	2,100	400	1,000	—	750	450	4,200	8,900
Nova Scotia.....	13,110	1,770	44,745	107	2,375	4,495	25,190	93,542
New Brunswick.....	9,700	340	30,100	75	4,700	2,450	7,425	57,533
Quebec.....	63,493	8,407	303,060	12,160	5,423	142,555	82,202	641,279
Ontario.....	506,326	39,500	782,685	27,056	219,623	125,370	242,740	2,365,352
Manitoba.....	154,738	88,256	169,295	1,001	90,095	165,409	44,300	794,295
Saskatchewan.....	278,522	70,679	98,876	3,730	23,892	184,792	43,259	857,738
Alberta.....	236,719	79,184	120,359	19,744	15,130	128,255	48,707	848,227
British Columbia.....	436,112	89,655	742,646	23,770	582,412	242,706	157,715	2,329,273
N.W. Territories.....	—	—	—	—	25,350	117,000	—	142,350
Totals.....	1,700,820	378,191	2,292,766	87,643	969,750	1,113,482	655,738	8,138,489

¹Includes income received from timber, and annuities earned as interest on Indian trust funds.

Subsection 2.—The Eskimos of Canada.¹

Unlike the Indian tribes, which are scattered throughout Canada, the Eskimos are limited to the Northwest Territories, chiefly the northern fringe of the mainland and the Arctic Archipelago. The Eskimo is a nomad but lives for the most part along the Arctic littoral, not wandering far inland, since he depends for his subsistence largely on marine mammals and fish. The administration of this race was carried on along with that of the Indians prior to 1927, but on Aug. 31 of that year the Government transferred the care of the Eskimos to the Northwest Territories and Yukon Branch of the Department of the Interior. This transfer was largely influenced by the fact that the administration of the Territories and natural resources (which had long been under the Department of the Interior) and of the Eskimo inhabitants were closely allied and could be more efficiently carried on together.

Officers of the Northwest Territories and Yukon Branch and the Royal Canadian Mounted Police made a careful estimate in 1927 of the numbers and locations of all Eskimos in Canada. The result placed the total at 7,103, located as follows: Baffin island, 1,513; vicinity of Hudson bay and strait, 3,202; Central Arctic, 438; Western Arctic, 1,650; Yukon Territory, 300.

The Department of the Interior has accomplished much in the way of providing medical care and regular inspection of the Eskimos, the setting aside of wild-life preserves for native use, and the establishment of permanent stations in the Arctic Archipelago from which regular patrols are made by the Royal Canadian Mounted Police.

Section 5.—Pensions and other Provisions for the Welfare of War Veterans.²

Pensions Division.—In previous issues of the Year Book, a full description has been given of the work of the Pensions Division of the Department of Pensions and National Health.

¹ Revised by the Dominion Lands Administration, Department of the Interior.

² Revised by E. H. Scammell, Secretary, Pensions Division, Department of Pensions and National Health.

The Annual Report for the fiscal year ended Mar. 31, 1931, shows an increase in the number of ex-members of the forces who received in-patient hospital treatment, the number being 15,519 as against 12,939 in 1929-30 and 12,147 in 1928-29. The Department maintains eight hospitals which are situated in the following centres: Halifax, Saint John, Ste. Anne de Bellevue, Toronto, London, Winnipeg, Calgary and Vancouver. The sheltered employment workshops are still operated at Hamilton, Montreal, Halifax and Vancouver, and one shop by the Red Cross Society at Victoria.

The Pension Division of the Department is responsible for the administration of returned soldiers' affairs under the Pensions and National Health Act, and the War Veterans' Allowance Act. It also is responsible for all payments under the Pension Act.

The following is an epitomized statement of the manner in which the funds appropriated by Parliament have been dealt with, and also sets forth the cost of administration and the adjudication of pensions in amount and percentage.

Direct payments to men and dependants.....	\$ 50,491,852
Payments for services to men and dependants.....	4,858,955
Capital expenditures.....	128,438
Payments to outside organizations.....	53,123
Recoverable expenditures.....	231,947
Revenue—Insurance premiums.....	\$ 1,791,542
Casual.....	112,535
	<hr/> \$ 1,904,078
	\$ 57,668,393
Administration expenses.....	1,444,868
	<hr/> \$ 59,113,261
Expense of the Board of Pension Commissioners, Federal Appeal Board, Veterans' Bureau, Pension Tribunal and Pension Appeal Court.....	713,156
	<hr/> \$ 59,826,417

DEPARTMENTAL ADMINISTRATIVE EXPENSE.

General departmental administration.....	\$ 1,444,868
Percentage—Departmental administration.....	2.415 p.c.

Adjudication of Pensions.

Board of Pension Commissioners.....	\$ 412,884
Federal Appeal Board.....	99,209
Veterans' Bureau.....	76,173
Pension Tribunal.....	108,990
Pension Appeal Court.....	15,897
	<hr/> 713,156
Percentage—Adjudication of pensions.....	1.192 p.c.
Total administration and adjudication expense.....	\$ 2,158,024
Percentage—All expense.....	3.607 p.c.

The Board of Pension Commissioners for Canada.—The Board of Pension Commissioners is responsible for the adjudication and award of pensions in respect of disabilities connected with military service and the award of pensions to the dependants of those who have died. It consists of three members and operates under the authority of the Pension Act.

The following statements illustrate the growth of the activities of the Board of Pension Commissioners:—

The number of disability awards in force at Mar. 31, 1931, shows an increase of 9,673, being due, in the main, to the reinstatement, as provided by the 1931

amendments to the statute, of awards in cases in which final payments had been accepted. A comparatively slight increase, namely, 32, is found to have taken place in the number of dependent pensions in force. The reinstatement of disability awards in final payment cases, usually involves the payment of additional pension for several dependants, including the pensioner's wife, children, and in many instances, dependent parents.

The number of medical examinations for pension purposes carried out during the fiscal year was 31,208, representing an increase of 5,511, which to a large extent is due to reinstatement of awards in final payment cases.

The total liability in respect of pensions under the Pension Act for the fiscal year ending Mar. 31, 1931, was \$40,211,726, which is an increase of \$2,409,216 over the liability for the preceding fiscal year.

13.—Pensions in Force as at Mar. 31, 1918-31.

Fiscal Year.	Dependants.		Disabilities.		Total.	
	No. of Pensions.	Liability.	No. of Pensions.	Liability.	No. of Pensions.	Liability.
		\$		\$		\$
1880.....	10,488	4,168,602	15,335	3,105,126	25,823	7,273,728
1881.....	16,753	9,593,056	42,932	7,470,729	59,685	17,063,785
1882.....	17,823	10,841,170	69,203	14,335,118	87,026	25,176,288
1883.....	19,209	12,954,141	51,452	18,230,697	70,661	31,184,838
1884.....	19,606	12,687,237	45,133	17,991,535	64,739	30,678,772
1885.....	19,794	12,279,621	43,263	18,142,145	63,057	30,421,766
1886.....	19,971	12,037,843	43,300	18,787,206	63,271	30,825,049
1887.....	20,015	11,804,825	44,598	19,816,380	64,613	31,621,205
1888.....	20,005	11,608,530	46,385	21,456,941	66,390	33,065,471
1889.....	19,999	11,419,276	48,027	22,811,373	68,026	34,230,649
1890.....	19,975	11,209,351	50,635	24,374,502	70,610	35,583,853
1891.....	20,002	11,090,158	54,620	26,095,150	74,622	37,185,308
1892.....	19,644	10,742,518	56,996	27,059,982	76,640	37,802,510
1893.....	19,676	10,985,518	66,669	29,226,208	86,345	40,211,726

The following are the figures of disability and dependent pensions of beneficiaries under the Pension Act as at Mar. 31, 1931:—

Total number of disability pensions, temporary.....	41,031
Total number of disability pensions, permanent.....	25,638
Total.....	66,669
Total number of dependent pensioners—	
Widows.....	8,590
Others.....	11,086
Total.....	19,676
Grand Total.....	86,345

Number of persons in receipt of benefits under the Pension Act as at March 31, 1931:—

Disability pensioners.....	66,669
Disability pensioners' wives.....	48,794
Disability pensioners' children.....	85,812
Disability pensioners' other relatives.....	1,669
Disability pensioners' (widowers, section 22-9 Pension Act).....	232
	203,176
Dependent pensioners.....	19,676
Dependent pensioners' children.....	5,829
Other relatives in addition to main dependant.....	1,657
	27,162

SUPPLEMENTARY AWARDS.

<i>Disability—</i>		
Militia Pension Act (sections 48 and 49, Pension Act).....	30	
Supplementary to awards paid by Great Britain (sections 45 and 47, Pension Act).....	267	
R.N.W.M. Police Supplementary (section 48, Pension Act)...	3	
		300
<i>Dependants—</i>		
Militia Pension Act (sections 48 and 49, Pension Act).....	8	
Supplementary to awards paid by Great Britain (sections 46 and 47, Pension Act)	62	
Supplementary to awards paid by Belgium (section 46, Pension Act).....	1	
Supplementary to awards paid by France (section 46, Pension Act).....	32	
Supplementary to awards paid by Italy (section 46, Pension Act).....	3	
		106
Grand Total.....		230,744

Rates of pensions for all ranks were published in tables on pp. 960-2 of the 1925 Year Book, to which the reader is referred.

Pension Tribunal.—The Pension Tribunal, appointed in accordance with the amendments to the Pension Act, passed in 1930, came into operation on Oct. 1, 1930, by the appointment of a Chairman and eight members.

Arrangements were made at once for staff at head office of the Tribunal in Ottawa, and for the district offices located as follows: Eastern District, Ottawa; Central, Toronto; Mid-West, Winnipeg; Western, Vancouver.

An endeavour was made to hold sessions in as many centres as possible, restricted, however, to those centres in which the Veterans' Bureau had prepared applications. Sessions were held during the period Oct. 14-Mar. 31 at the following centres: Ottawa (2), Toronto (3), Montreal (2), London (2), Kingston, Brockville, Campbellton, Amherst, Moncton, Saint John, Fredericton, Kentville, Halifax, New Glasgow, Sydney, Charlottetown, Newcastle, Quebec, Belleville, Cornwall, Owen Sound, Guelph, Kitchener, Stratford, Woodstock, Chatham, Windsor, Brantford, Hamilton (2), Niagara Falls, Gravenhurst, Orillia, Peterboro, Winnipeg (1), Regina, Calgary, Yorkton, Saskatoon, Edmonton (2), North Battleford, Prince Albert, Melfort, Moose Jaw, Sault Ste. Marie, Sudbury, North Bay, Medicine Hat, Lethbridge, Kamloops, Vancouver (2), Victoria (2). Five applications were heard daily by each Tribunal, sitting five days in the week.

During the period ended Mar. 31, 1931, the tribunal gave consideration to 1,582 applications, which were disposed of as follows:—

<i>Heard and completed—</i>		
Favourable to the applicant.....	590	
Unfavourable to the applicant.....	721	
Withdrawn.....	122	
		1,433
<i>Heard, but not completed—</i>		
Decisions pending.....	83	
Applications adjourned.....	57	
Disagreements as to decision.....	9	
		149

The total number of applications referred to the Tribunal for hearing during the period ended Mar. 31, 1931, was 10,759, of which number 1,582 had been before the Tribunal, 2,033 were reported by the Veterans' Bureau as ready for hearing and 7,144 as not ready.

Pension Appeal Court.—This Court was not fully constituted until the middle of January, 1931, so that sittings were not commenced until the first week in February. Between that date and Mar. 31, the Court dealt with 241 appeals.

Veterans' Bureau.—Pursuant to legislation passed in 1930, a Veterans' Bureau was organized as a branch of the Department and came into active operation on Oct. 1, 1930. A Chief Pensions Advocate was appointed with headquarters at Ottawa, and District Pensions Advocates were appointed in principal centres throughout the country. First and foremost the duty of the Bureau is to act as soldiers' friend, particularly with regard to claims for pension. Its functions in detail are:—

1. To receive from the Board of Pension Commissioners, from individual applicants, from soldiers' organizations, legal representatives or any other source, claims for pension and to conduct correspondence and maintain records pertaining thereto.

2. To direct the work of District Pensions Advocates in the district offices of the Department throughout the country; to provide adequate service to applicants wherever they may live.

3. Through the Pensions Advocates to approach each case from the point of view of the claimant and to prepare it as a lawyer prepares a case for his client. This involves obtaining a complete statement of claim from the applicant; study of the record; advice to the applicant as to further proceedings; collection of evidence, including medical testimony, industrial records and information from other sources relating to the claim.

4. To prepare a written statement of claim and an argument, for inclusion in the record.

5. To consult with Commission Counsel prior to formal hearing of the case with a view to admitting points which may properly be admitted by both parties, thus facilitating judicial proceedings.

6. To represent the applicant and to plead the case before the Board of Pension Commissioners, the Pension Tribunal and the Pension Appeal Court, including examination of expert medical witnesses and others.

7. To appear before the Pension Appeal Court at all hearings for consideration of any application which may be brought before the court either on behalf of an individual applicant or generally, including applications relating to the interpretation of the Pension Act or regulations and to be responsible for proper representation of the soldiers' interests.

8. The standardization of preparatory work to provide for the same standard of service to the soldiers in all parts of the Dominion.

9. To collate general medical and legal information relating to pensions for distribution to District Pensions Advocates.

To sum up, it is the function of the Veterans' Bureau to organize, train and direct a corps of specialists in pension law so equipped as to give authoritative and careful counsel to soldiers and their dependants seeking to establish claims and to bring forward the soldiers' viewpoint in all matters of interpretation and policy pertaining to the general administration of the Pension Act.

During the period Oct. 1, 1930, to Mar. 31, 1931, 14,333 applications were referred to the Veterans' Bureau, of which 2,107 were referred to the Pension Tribunal for hearing. This enabled the Pension Tribunal to arrange sittings in all principal centres within a few months of its organization.

Owing to the very large number of applications received it was necessary to give priority to the most urgent claims. Accordingly all applications were classified in the following general classification:—

1. (a) Applicants who were seriously ill and not in receipt of pension.
(b) Death claims on behalf of widows, dependent children, dependent parents and other dependants, preference to be given to those without resources.
2. (a) Applicants in receipt of a small pension who are seriously ill from another injury or disease on account of which pension is not being paid and who are otherwise without resources.
(b) Mental cases in institutions provided there are dependants without resources.
3. Minor disability cases not in receipt of pension.
4. Minor disability pensioners not included in Class 2 (a) above and all other entitlement applications including section 12 claims on account of disability usually considered to be of congenital origin.
5. Assessment, retroactivation and other claims of this nature (if within the jurisdiction of the Tribunal).

It was found that more than half of the applications dealt with belonged to Class 3, while Class 1 cases were next in order.

War Veterans' Allowances.—The War Veterans' Allowance Act, enacted in May, 1930 (Chapter 48), became effective Sept. 1, 1930.

The object of this legislation is to relieve from necessity the aged or totally incapacitated veteran whose resources or income are insufficient to provide for his adequate maintenance.

The recipient must have attained the age of sixty years or be permanently unemployable by reason of physical or mental disability, and have been domiciled in Canada for the one year immediately preceding date of application.

He must have served in a theatre of actual war or, in the alternative, be in receipt of a pension or have accepted a final payment in lieu thereof for a disability of 5 p. c. or more.

In the case of ex-members of the Imperial or Allied Forces, they must have been domiciled in Canada at the time of their enlistment.

The maximum payable to a single man or widower without children is \$24 per annum and for a married man or widower with dependent children who residing with his family, \$480.

Any income in excess of \$125 per annum in the case of a single man or \$250 in the case of a married man is deductible from the allowance payable.

The Act, therefore, enables the committee to supplement the income of a single man up to \$365 per annum and that of a married man up to \$730 per annum.

The Veterans' Allowance Act provides for administration by an independent committee known as the War Veterans' Allowance Committee comprising a chairman and two other members.

Provision is also made in the Act for liaison with the Department of Pension and National Health by authority enabling the deputy minister, or in his absence the assistant deputy minister, to act as an additional member.

Representation of the returned soldiers at large is also provided by authority for appointment of one other member, not on the staff of the Department. The General Secretary of the Canadian Legion has been appointed under this authority in an honorary capacity.

The Department, under the direction of the committee, furnishes medical examinations, investigations in the towns and cities, and the necessary quarters at

personnel to enable the committee to perform its work, and makes payment of allowances in accordance with the committee's decisions.

Rural investigations are conducted through the courtesy of the Soldier Settlement Board.

14.—Domiciliary Detail and Annual Liability of Recipients of War Veterans' Allowances as at Mar. 31, 1931.

Resident in—	Veterans.		Dependants.		Total.
	No.	Amount.	No.	Amount.	
Montreal District.....	224	\$ 72,694	2	\$ 960	\$ 73,654
Halifax District.....	152	55,593	—	—	55,593
Ottawa District.....	128	41,079	2	960	42,039
Toronto District.....	470	161,611	1	480	162,091
London District.....	129	46,713	—	—	46,713
Winnipeg District.....	218	70,316	1	480	70,796
Regina District.....	116	36,978	2	960	37,938
Calgary District.....	179	55,743	2	960	56,703
Vancouver District.....	515	163,718	—	—	163,718
West Saint John District.....	88	29,240	—	—	29,240
Totals.....	2,219	733,685	10	4,800	738,485

15.—Distribution According to Rank on Discharge and Percentage.

Rank.	No.	Amount.	Percentage.
Private.....	2,011	\$ 661,300	90.13
Sergeant.....	172	58,758	8.01
Warrant Officer.....	12	4,957	0.67
Lieutenant.....	13	4,805	0.65
Captain.....	8	2,785	0.39
Major.....	3	1,080	0.15
Totals.....	2,219	733,685	100.00

16.—Age of Recipients at the Time of the Award.

Years of Age.	No.	Years of Age.	No.	Years of Age.	No.
5.....	1	59.....	64	36.....	36
4.....	1	58.....	54	35.....	27
1.....	1	57.....	44	34.....	30
9.....	4	56.....	35	33.....	28
8.....	3	55.....	38	32.....	12
7.....	2	54.....	35	31.....	11
6.....	4	53.....	28	30.....	1
5.....	8	52.....	33	29.....	1
4.....	5	51.....	25		
3.....	12	50.....	26	Total.....	2,219
2.....	19	49.....	16		
1.....	37	48.....	24		
0.....	47	47.....	30		
9.....	52	46.....	28		
8.....	77	45.....	42	60 years and over.....	1,347
7.....	89	44.....	30		
6.....	111	43.....	25	Under 60.....	872
5.....	106	42.....	21		
4.....	143	41.....	29		
3.....	172	40.....	20		
2.....	180	39.....	31		
1.....	200	38.....	19	Average age—57.68.	
0.....	73	37.....	29		

Returned Soldiers' Insurance.—The Returned Soldiers' Insurance Act of 1920 was placed under the jurisdiction of the Board of Pension Commissioners in Canada. The Board confines itself, however, to the issue of policies and to

the supervision and adjudication of claims. All collections and payments are made by the Department. No applications under the Statute could be received after Sept. 1, 1923, but its operation has been extended from time to time, and applications may now be received until Aug. 31, 1933.

During the fiscal year ended Mar. 31, 1931, 1,757 applications for policies were received, of which 1,644 were accepted and 113 refused. The number of policies issued, including some in which applications had been accepted prior to the commencement of the period under review, was 1,672.

The total number of policies in force on Mar. 31, 1931, was 29,013, representing an insurance of \$64,314,952. During the fiscal year the premium income was \$1,791,542, interest was \$331,919, making a total of \$2,123,461. Expenditure during the year, in respect of death claims, cancelled insurance and surrendered policies, amounted to \$842,911. The total number of death claims to Mar. 31, 1931, was 2,478, amounting to \$6,633,579. The balance on hand as at Mar. 31, 1931, was \$9,249,236.

Section 6.—Soldier and General Land Settlement.¹

In the fall of 1930, a comprehensive survey of the operations and administration of soldier and general land settlement was undertaken by the Minister of Immigration and Colonization, with the object of increasing the efficiency of the organization and decreasing administration costs.

The work of land revaluation, which reduced the accounts of soldier settlers by \$7,476,092, has been completed, and the legislation of 1930, granting 30 per cent reduction of the indebtedness of soldier settlers, meant a further writing down of settlers' accounts to the extent of \$11,318,014. These two enactments involved a reduction of \$18,794,107.

Reorganization of the Service was completed early in 1931. Formerly it consisted of a Board of three Commissioners, nine executive branches at Headquarters Office and eleven district offices, with a total staff of 526. It now functions under a single Director and three executive branches. This reorganization effected a diminution of staff by 158 and a salary cost reduction of \$270,264. The number of motor cars was reduced by 43. Total reduction of annual administration cost was \$330,274. In the conduct of reorganization care was taken that there should be no elimination or curtailment of services essential to settlers.

As formerly, the Soldier Settlement of Canada conducts the work of soldier settlement under the Soldier Settlement Act of 1919 and amendments, and general land settlement as the Land Settlement Branch of the Department of Immigration and Colonization.

Under the Soldier Settlement Act, 24,491 soldier settlers were established on the land with loans. At the end of 1931 there were 11,612 soldier settlers, 5,183 civilian settlers, 2,383 British family settlers, 226 civilian settlers on reverted British family farms and 3,409 farms on hand for resale. Two thousand two hundred and seventy-three loans have been repaid in full. There are now 19,405 active settlers as well as 3,409 parcels of land, or a total of 22,814 farms under administration.

There has been a reduction in gross loans from \$145,220,320 to \$63,383,228 accounted for as follows: paid into the Dominion treasury in principal and interest \$49,270,197; written off settlers' accounts by remedial legislation, \$21,721,977; deducted on account of losses sustained in the resale of land and chattels, \$10,844,918.

¹ Revised by C. W. Cavers, Soldier Settlement of Canada. Figures are as of Dec. 31, 1931.

Under the three thousand family scheme, 3,346 families came forward from Great Britain and Northern Ireland for settlement, of which 170 withdrew from the scheme before receiving advances and 1,075 withdrew after contracting loans, a total of 1,245 withdrawals. There are now 2,070 families operating farms under this scheme; 13 families have repaid their loans; 18 families have not yet received a loan.

Under the New Brunswick five hundred British family scheme, 359 families have been settled during the past four years.

In the autumn of 1930 a policy of colonization within Canada was instituted and extended in the spring of 1931 by way of co-ordinated effort with the colonization departments of the railways and later through co-operation with provincial colonization departments. Since October, 1930, the Land Settlement Branch has placed 5,676 single men in farm work and settled 978 families on vacant soldier settlement farms, exclusive of those placed by the railways, bringing the grand total to 12,990 single men and 6,343 families.

Since 1930, the field staff of the organization has been utilized to carry out, in rural districts, investigations of applications for allowances under the War Veterans' Allowance Act of 1930. The Department had made 4,171 investigations up to Dec. 31, 1931. Investigations also have been conducted in connection with special pension cases and pension applications.

Section 7.—Department of the Secretary of State.¹

The Department of the Secretary of State was constituted in its present form in 1873, through the merging of the previously-existing offices of the Secretaries of State for Canada and for the provinces. The Secretary of State is the official mouthpiece of the Government as well as the medium of communication between the Dominion and Provincial Governments, all correspondence between the Governments being conducted by him with the Lieutenant-Governors. He is also the custodian of the Great Seal of Canada and the Privy Seal as well as the channel by which the general public may approach the Crown.

The Secretary of State is also the Registrar-General, registering all proclamations, commissions, licences, warrants, writs, and other instruments issued under the Great Seal and the Privy Seal. He is further charged with the administration of the Companies Act, the Canada Temperance Act, the Naturalization Act, the Boards of Trade Act, the Trade Unions Act, the Ticket of Leave Act. The following information on these subjects has been secured in the course of administration.

Charters of Incorporation.—The number of companies incorporated under the Companies Act and amending Acts during the fiscal year 1930-31 was 898 with a total capitalization of \$562,613,797. Supplementary letters patent were granted during the year to 301 companies, 114 of which increased their capital stock by the aggregate amount of \$153,524,400; 39 decreased their capital stock by \$50,604,545; the remaining 148 were granted supplementary letters patent for various purposes, such as changing names, extending powers, etc. The total capitalization of new companies plus the increase of capital of existing companies amounted to \$716,138,197.

In Table 17 will be found the number and capitalization of companies incorporated during the years 1900-31.

¹ Revised by Thomas Mulvey, B.A., K.C., Under Secretary of State, Department of the Secretary of State.

17.—Number and Capitalization of Companies Incorporated under the Companies Act and Amending Acts during the calendar years 1900-07, and the fiscal year ended Mar. 31, 1908-31.

Year.	New Companies.		Old Companies.		Gross Increase in Capitalization.	Old Companies.		Net Increase of Capitalization.
	Number.	Capitalization.	Number.	Increase in Capital.		Number.	Decrease in Capital.	
		\$		\$	\$		\$	\$
1900.....	53	9,558,900	-	3,351,000	12,909,900	-	-	12,909,900
1901.....	55	7,662,552	-	3,420,000	11,082,552	-	-	11,082,552
1902.....	126	51,182,850	-	5,055,000	56,237,850	-	-	56,237,850
1903.....	187	83,405,340	-	5,854,520	89,259,860	-	-	89,259,860
1904.....	206	80,597,752	-	3,366,000	83,963,752	-	-	83,963,752
1905.....	293	99,910,900	-	9,685,000	109,595,900	-	-	109,595,900
1906.....	374	180,173,075	-	32,403,000	212,576,075	-	-	212,576,075
1907.....	378	132,686,800	-	19,091,900	151,778,200	-	-	151,778,200
1908 (3 mos.)	64	13,299,000	-	865,000	14,164,000	-	-	14,164,000
1909.....	366	121,624,875	-	72,293,000	193,917,875	-	-	193,917,875
1910.....	420	301,788,800	44	46,589,500	348,377,800	4	670,600	347,707,200
1911.....	454	458,415,800	45	24,715,600	483,131,400	4	10,650,000	472,481,400
1912.....	575	447,626,999	44	42,939,000	490,565,999	7	17,880,800	472,685,199
1913.....	835	625,212,300	54	55,549,900	680,762,200	5	11,861,381	668,900,819
1914.....	647	361,708,567	61	63,599,003	425,307,570	3	3,290,000	422,017,570
1915.....	461	208,283,633	34	26,650,000	234,933,633	4	6,840,000	228,093,633
1916.....	534	157,342,800	28	68,996,000	226,338,800	11	4,811,700	221,527,100
1917.....	606	207,967,810	36	26,540,000	234,507,810	3	5,050,000	229,457,810
1918.....	574	335,982,400	41	69,321,400	405,303,800	4	1,884,300	403,419,500
1919.....	512	214,326,000	69	67,583,625	281,909,625	11	2,115,985	279,793,640
1920.....	991	603,210,850	88	85,187,750	688,398,600	10	19,530,000	668,868,600
1921.....	852	752,062,683	135	79,803,000	831,865,683	17	7,698,300	824,167,383
1922.....	875	351,555,900	43	18,275,000	369,830,900	13	5,121,450	364,709,450
1923.....	752	314,603,050	45	46,108,500	360,711,550	30	10,751,123	349,960,427
1924.....	604	204,646,283	58	15,352,755	219,999,038	27	57,944,410	162,054,628
1925.....	663	231,044,800	47	15,549,573	246,594,373	28	43,863,633	202,730,740
1926.....	801	353,342,800	48	33,303,500	386,646,300	47	43,797,780	342,848,520
1927.....	836	692,540,900	70	33,524,000	726,064,900	40	16,905,045	709,159,855
1928.....	1,102	538,595,570	82	179,167,100	717,762,670	31	37,123,580	680,639,090
1929.....	1,202	1,406,006,340	128	412,396,320	1,818,402,660	40	48,005,533	1,770,397,127
1930.....	1,280	1,346,138,367	127	293,496,800	1,639,635,167	35	46,955,000	1,592,680,167
1931.....	898	562,613,797	75	153,524,400	716,138,197	39	50,604,555	665,533,642

Naturalizations.—The naturalizations effected under the Naturalization Act (R.S.C., 1906, c. 77) for the calendar years 1908-1917 inclusive, were given on p. 594 of the Year Book for 1919. Since Jan. 1, 1918, the only method of obtaining naturalization has been under what is known as the "Imperial" Naturalization Act, which came into force on Jan. 1, 1915. This Act was known under the title of the Naturalization Act, 1914, until July 7, 1919, when it was repealed and the Naturalization Act, 1919, came into force. On July 1, 1920, the Naturalization Act, 1919, was repealed, and the Naturalization Act, 1914, was revived and amended under the title of the Naturalization Acts, 1914 and 1920. By an amendment passed by Parliament in 1923, the restriction by which persons of alien enemy birth were ineligible to receive certificates of naturalization for a period of 10 years after the termination of the War was removed, and at the present time any alien may apply for naturalization, regardless of his nationality. All these Acts have been consolidated in R.S.C., 1927, c. 138. Since Jan. 15, 1932, women British subjects on marrying aliens may by declaration retain their British nationality and the wives of aliens no longer become British subjects through their husbands' naturalization. They must apply thereafter to the Secretary of State.

Table 18 shows the number of naturalization certificates issued to single persons or heads of families under these Acts during the calendar years from 1922 to 1931. The total number of persons naturalized during the fiscal year ended Mar. 31, 1932, was 21,392, including the wives and minor children of those to whom naturalization certificates were issued.

8.—Naturalizations in Canada, by Principal Nationalities, under the Naturalization Act during the calendar years 1922-30.

Nationality.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
Albanians.....	4	5	3	12	4	8	11	9	4
Azerbaijanis.....	1	—	—	—	—	—	1	—	—
Argentinians.....	2	1	—	1	—	2	2	1	4
Austrians.....	89	606	1,108	1,021	1,195	925	728	890	1,004
Austrians (Bohemian).....	—	—	—	—	1	—	—	—	—
Austro-Hungarians.....	5	10	15	9	4	7	2	5	4
Austrians (Serbian).....	—	—	—	—	1	—	—	—	—
Austrians (Ukrainian).....	2	—	1	—	—	—	—	—	—
Belgians.....	132	129	157	192	204	157	169	264	274
Bolivians.....	1	—	—	—	—	—	2	—	—
Brazilians.....	5	4	—	1	2	—	—	3	1
Bulgarians.....	3	32	74	76	58	59	46	64	41
Bulgarians.....	1	—	—	1	1	—	—	—	2
Chinese.....	14	10	60	50	32	29	28	24	23
Colombians.....	—	—	—	—	—	1	—	—	—
Cubans.....	—	—	—	—	—	—	—	—	2
Czechoslovaks.....	99	64	115	60	47	38	57	287	287
Danes.....	125	93	79	108	105	116	132	208	217
Danzigers.....	—	—	—	—	—	1	—	—	1
Dutch.....	65	51	85	67	75	79	64	112	143
Egyptians.....	2	1	2	—	2	1	—	1	1
Estonians.....	—	—	—	—	—	2	8	9	10
Finnish.....	115	74	152	184	119	128	133	288	276
French.....	124	96	105	107	140	123	98	118	119
Germanians.....	195	144	346	246	229	183	171	288	420
Greeks.....	260	268	384	292	167	161	153	173	180
Greeks (Albanian).....	—	—	—	—	—	1	—	—	—
Greeks (Turk).....	1	—	—	1	—	—	—	—	—
Hungarians.....	31	24	112	71	69	37	45	184	396
Icelanders.....	—	—	5	10	15	15	17	12	17
Italians.....	665	886	1,366	1,258	1,589	1,270	1,146	1,739	1,186
Italians (Greek).....	—	—	—	—	1	—	—	—	—
Japanese.....	95	29	92	53	88	17	35	18	33
Lithuanians.....	—	—	—	—	—	17	30	25	25
Lithuanians.....	—	—	—	—	1	46	55	55	46
Luxemburgers.....	3	5	—	5	6	2	5	4	2
Macedonians.....	—	—	—	—	—	—	—	—	1
Mexicans.....	—	1	—	—	—	1	—	1	—
Montenegrins.....	—	1	1	2	2	2	1	2	3
Mount Lebanon ²	—	—	—	—	—	—	5	7	2
Norwegians.....	209	151	207	183	192	202	197	424	381
Palestinians.....	7	5	2	—	3	2	4	6	6
Persians.....	—	1	4	5	3	2	3	1	4
Persians (Armenian).....	—	—	—	1	—	—	—	—	—
Peruvians.....	—	—	—	—	—	—	—	—	1
Poles.....	1,088	654	926	749	1,339	1,189	962	1,295	1,218
Poles (Ukrainian).....	302	12	—	—	—	—	—	—	—
Portuguese.....	1	—	1	1	1	1	1	1	3
Rumanians.....	585	475	620	561	626	570	437	671	588
Russians.....	1,715	1,206	1,240	989	1,119	981	858	1,687	1,940
Serb-Croat-Slovenes.....	99	80	119	117	116	80	78	295	404
Serbs.....	3	—	—	—	—	—	—	—	—
Serbiards.....	8	5	10	8	12	5	10	7	8
Subjects of Allied Powers.....	120	188	—	—	—	—	—	—	—
Swedes.....	276	226	284	262	274	258	242	295	310
Swiss.....	49	43	42	48	31	9	13	26	38
Turkistan.....	—	—	—	—	—	—	1	—	—
Turks.....	7	8	22	25	10	17	24	24	24
Turks (Armenian).....	86	79	69	35	35	22	23	46	58
Turks (Assyrian).....	1	—	—	—	—	—	—	—	—
Turks (Bulgarian).....	—	—	—	1	—	—	—	—	—
Turks (Greek).....	7	7	2	12	11	4	1	3	1
Turks (Mesopotamian).....	5	2	—	1	—	—	—	—	—
Turks (Palestinian).....	—	—	1	1	—	—	—	—	—
Turks (Syrian).....	136	125	137	118	128	93	80	87	91
U.S. Citizens.....	1,600	989	888	927	1,070	963	939	1,073	1,104
Venezuelans.....	—	1	—	—	—	—	—	1	—
Section 6 ¹	—	2	2	1	3	2	—	—	2
Nationality undetermined.....	—	4	1	—	—	—	1	—	—
No nationality.....	1	3	1	—	—	—	—	—	1
Totals.....	8,344	6,795	8,843	7,873	9,130	7,828	7,019	10,734	10,906

¹Under Section 6 of the Naturalization Act the Secretary of State is authorized, in his discretion, to grant a special certificate of naturalization to any person with regard to whose nationality as a British subject a doubt exists. ²Citizens of the Lebanese Republic.

Canada Temperance Act.—Under Parts I and II of this Act, provision is made for the prohibition of the sale of intoxicating liquors in counties and cities. The last vote taken under these parts was in the County of Compton, Quebec, on April 28, 1930, in response to a petition for the repeal of the Act in that county. The vote resulted in favour of the repeal, which became effective on June 14, 1930. Part III of the Act relates to penalties and prosecutions, Part IV to the prohibition of the importation and exportation of intoxicating liquors into and from the provinces, while Part V enacts provisions in aid of provincial legislation for the control of the liquor traffic.

Section 8.—The Royal Canadian Mounted Police.

The Royal Canadian Mounted Police (formerly the Royal Northwest Mounted Police) are distributed throughout the Dominion with headquarters at Ottawa. It is a Dominion constabulary whose duties, owing to the fact that the provinces are responsible for the enforcement of law and order, are somewhat different from those of most police forces. In addition, however, to its strictly Dominion duties by an arrangement approved by Order in Council on April 14, 1928, and coming into effect on June 1, 1928, the Force has assumed the enforcement of law and order in Saskatchewan outside of urban centres which maintain their own municipal forces. The arrangement, which is for a term of 7 years from 1928, is substantially similar to that which obtained in the two provinces of Alberta and Saskatchewan from their establishment in 1905 until 1917. As a result there are now nearly 90 detachments in the province, with officers and other ranks to the number of nearly 255 exclusive of those in the depot.

The Dominion duties of the Force as distinct from its provincial duties in Saskatchewan fall under the following general headings: (1) the enforcement of Dominion Statutes; (2) the enforcement of the Criminal Code in the Northwest Territories (including the Arctic), the Yukon, the national parks and Indian reserves, and also when Dominion Departments are the aggrieved parties; (3) the enforcement (by special agreement) of provincial laws, etc., in national parks in British Columbia and Alberta; (4) investigations for other Departments; (5) police assistance and protection rendered to Dominion Departments, provincial authorities, other police forces, etc. The assistance rendered is of the most varied kinds, including aid to the Customs in preventing smuggling, to Inland Revenue in suppressing illegal stills, to the Department of Health in combating the traffic in narcotic drugs, to the Secretary of State in verifying the statements made by applicants for naturalization, to the Post Office in detecting frauds upon and robberies of the mails, to the Department of Indian Affairs in protecting the Indians, etc. Aid is occasionally given to Provincial Governments in the maintenance of law and order.

The Arctic work is becoming increasingly important; there are now in the Arctic and sub-Arctic regions (exclusive of the Yukon) 35 detachments with 110 all ranks, or about 9 p.c. of the entire strength. These detachments include posts on Ellesmere, North Devon, Baffin and Victoria islands, as well as along the coast of the Arctic ocean and Hudson bay; one (Bache Peninsula) is within eleven degrees of the North Pole, and a powerful auxiliary power schooner, the *St. Roch*, employed in the Arctic ocean, ranks as a detachment. Every winter long patrols are made in these regions, the islands west of Ellesmere island (Axel Heiberg, etc.) being visited periodically. Contrasted with this is detective work in the urban communities in running to earth counterfeiters, narcotic drug dealers, robbers of the mails and others of the more dangerous types of evil-doers.

On Sept. 30, 1931, the strength of the Force was 59 officers, 1,154 non-commissioned officers and constables and 138 special constables, or 1,351 all ranks, with 5 horses and 500 dogs. The increase in the uniformed force during the year was 1, or 7 p.c. Including special constables the increase was 106. The number of applicants for engagement was 3,249. The details of the strength and the fluctuations of strength since 1920 are shown in Table 19.

—Strength and Distribution of the Royal Canadian Mounted Police on Sept. 30, 1931, with Totals on Sept. 30, 1920-31.

Schedule.	Headquarters Staff.	Maritime Provinces.	Quebec.	Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.	Northwest Territories.	Baffin Island.	Ellesmere Island.	North Devon Island.	Chesterfield Inlet.	On Loan.	Canada.
Commissioner.....	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Asst. Commissioners.....	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2
Superintendents.....	2	-	-	1	1	1	2	1	1	-	-	-	-	-	-	9
Inspectors.....	3	1	1	6	3	12	6	6	3	4	-	-	-	-	-	45
Geographical.....	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Asst. Veterinary Surgeon.....	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Staff Sergeants.....	6	2	1	6	3	8	6	3	1	-	-	-	-	-	-	36
Sergeants.....	11	3	4	20	12	33	16	11	3	2	-	-	-	1	1	117
Corporals.....	21	3	8	35	13	35	21	10	7	8	2	1	1	1	-	166
Constables.....	15	25	18	240	47	297	57	52	25	45	-	2	2	3	-	835
Special Constables.....	5	-	2	13	11	50	20	9	6	22	-	-	-	-	-	138
Totals, Canada.....1931	65	34	34	321	90	439	128	92	46	81	9	3	3	5	1	1,351
“.....1930	63	34	39	333	70	348	120	95	46	77	9	2	3	5	1	1,245
“.....1929	64	34	39	316	57	352	112	88	43	75	7	3	3	5	3	1,199
“.....1928	68	35	35	298	49	262	123	88	41	71	7	3	4	-	4	1,087
“.....1927	69	36	36	306	54	170	112	99	39	65	8	3	3	-	27	1,004
“.....1926	66	28	37	276	47	173	113	93	34	56	7	3	3	-	10	963
“.....1925	72	30	27	294	52	182	116	94	37	49	8	3	3	-	10	977
“.....1924	72	32	27	295	51	192	128	109	40	52	7	2	3	-	-	1,020
“.....1923	72	32	31	317	64	253	152	143	42	29	4	9	-	-	-	1,148
“.....1922	79	37	41	288	71	274	173	175	51	27	4	7	-	-	-	1,227
“.....1921	79	32	26	440	162	329	266	265	52	28	1	-	-	-	-	1,680
“.....1920	72	25	9	384	160	400	300	257	48	16	-	-	-	-	-	1,671

Section 9.—The Civil Service of Canada.

Organization.¹—Prior to 1882, appointments to the Civil Service were made directly by the Government. In that year, a Board of Civil Service Examiners was appointed to examine candidates and issue certificates of qualification to those successful at examinations. Appointments, however, were still made by the Government.

The Royal Commission of 1907, appointed to inquire into the Civil Service and its operation, reported in favour of the creation of a Civil Service Commission. In 1908 this body was appointed, consisting of two members appointed by the Governor in Council and holding office during good behaviour, but being

¹ Revised by Wm. Foran, Secretary, Civil Service Commission, Ottawa.

removable by the Governor General on address of the Senate and House of Commons. The Civil Service was classified into three divisions under the Deputy Heads of Departments, each division consisting of two subdivisions, each of these having its scale of salaries. The Commission was charged with the organization of appointments to the Inside Service (at Ottawa), certain appointments to be made after open competition and others after qualifying tests, also with holding qualifying examinations for the Outside Service (the Service apart from Ottawa) from which selections for appointments could be made by the various Departments. All British subjects between 18 and 35 years of age who had resided in Canada for three years were eligible to try these examinations.

In 1918 a third member of the Civil Service Commission was appointed, and by the Civil Service Act of that year the principle of appointment after open competition was applied to the Outside as well as the Inside Service. The Act also provided for the organization by the Commission of the various Government Departments, for a classification of all positions in the Service on a basis for the establishing of new rates of compensation, and for the principle of promotion by merit whenever consistent with the best interests of the Service. Provision was also made for preference in the matter of appointment to the Service to be given to qualified applicants who had served in the Great War.

Civil Service Statistics.¹—From April, 1924, a monthly return of persons employed and salaries has been made by each Department to the Dominion Bureau of Statistics according to a plan that ensures comparability between Departments and continuity in point of time. The institution of this system was preceded by an investigation back to 1912, the summary results of which are presented in Table 20.

During the war years, as will be seen from Table 20, the number of employees increased very rapidly, as a result of the enlargement of the functions of government and the imposition of new taxes, necessitating additional officials as collectors. Such new services as the Department of Pensions and National Health and the Soldier Settlement Board were also created. The maximum was reached in January, 1920, when 47,133 persons were employed; this number has since decreased to 45,167 in January, 1931. It may be added that, out of 45,581 in March, 1931, 1,156 in the Income Tax Branch and 2,848 in the Department of Pensions and National Health, or 4,004 in all, were engaged in services of outstanding importance which had no existence before the War. Further, an additional 11,961 persons were, in March, 1931, employed in the Post Office Department, performing services of an industrial rather than of a governmental type, and receiving their salaries out of the payments of the public for services immediately rendered, rather than out of taxation. This postal service alone accounted for \$2,900,513 of the \$7,895,400 paid in salaries in March, 1931, or 36.74 p.c. of the total.

The statistics of numbers of employees and of salaries, now being secured monthly, are more comprehensive than those previously published, as a result of the inclusion of various classes of employees, largely "part-time", "seasonal" and "fees of office" employees, who were not included in the report published in 1924. These employees are largely in the Departments of Marine and Fisheries and Public Works. There remain, however, many persons in the "non-enumerated class" whose numbers cannot be supplied monthly by the departmental officials but whose compensation is included in the monthly figures of expenditure on personnel, shown in Table 21.

¹ Revised by Col. J. R. Munro, Chief of the Finance Branch of the Bureau of Statistics, Ottawa.

Summary of Civil Service Employees (Permanent and Temporary) of the Government of Canada, together with Total Salaries, in the month of January of the years 1912-31, inclusive.

Year.	Employees.	Salaries.	Bonus.	Salaries and Bonus.
	No.	\$	\$	\$
.....	20,016	1,519,778	18,413	1,538,190
.....	22,621	1,780,703	22,569	1,803,272
.....	25,107	1,960,238	27,971	1,988,209
.....	28,010	2,268,700	32,167	2,300,867
.....	29,219	2,400,068	31,431	2,431,499
.....	32,435	2,673,767	29,167	2,702,934
.....	38,369	3,147,461	94,321	3,241,782
.....	41,825	3,552,686	557,882	4,110,568
.....	47,133	4,423,157	965,538	5,388,695
.....	41,957	4,414,669	861,973	5,276,642
.....	41,094	4,369,509	616,105	4,985,614
.....	38,992	4,268,357	463,470	4,731,827
.....	38,062	4,297,467	449,228	4,746,695
.....	38,645	4,473,470	166,461	4,639,931
.....	39,097	4,699,076	-	4,699,076
.....	39,440	4,786,615	-	4,786,615
.....	40,740	5,161,558	-	5,161,558
.....	42,038	5,428,058	-	5,428,058
.....	43,525	5,543,749	-	5,543,749
.....	45,167	5,757,554	-	5,757,554

¹ Figures for January, 1925-31 are not comparable with those for preceding Januaries, because monthly records now being published include various classes of employees not included in the historical record for 13 years 1912-24. In Table 21 will be found comparable figures of employees in the various Departments in March, 1930, and March, 1931.

Table 21, which gives statistics by Departments, with a further classification principal branches where such are recorded, is inserted to give comparable figures the latest months. In the month of March, 1931, the total number of employees the enumerated classes was 45,581 and the total expenditure in wages and salaries all classes of employees was \$7,895,591, as compared with 44,175 and \$7,443,404 respectively in March, 1930.

Total Number of Civil Service Employees, by Departments and Principal Branches ("Non-Enumerated Classes" Excluded), and Total Expenditure on Salaries, and Wages of all Employees ("Non-Enumerated Classes" Included), March, 1930, and March, 1931.

Department.	March, 1930.		March, 1931.	
	No.	Expenditure.	No.	Expenditure.
Agriculture—		\$		\$
Main Department.....	1,048	150,558	1,152	162,125
Experimental Farms.....	455	116,733	482	123,085
Health of Animals.....	610	103,625	613	105,859
Totals, Agriculture.....	2,113	370,916	2,247	391,069
Archives.....	83	13,454	83	13,363
Auditor-General.....	205	32,434	211	33,314
Civil Service Commission ¹	173	22,230	176	22,746 ²
Chief Electoral Officer.....	10	1,148	7	958
External Affairs—				
Main Department.....	80	11,719	77	11,542
The High Commissioner's Office.....	36	5,260	37	5,763 ³
Canadian Legation, Washington.....	17	4,018	16	4,531 ³
Canadian Legation, Paris.....	13	2,396	13	2,351 ³
The League of Nations.....	4	1,202	5	1,426 ³
Canadian Legation, Tokyo, Japan.....	4	1,332	7	2,036 ³
Totals, External Affairs.....	154	25,927	155	27,649
Finance.....	419⁴	56,146	405⁵	48,440⁶
Fisheries.....	331	108,519	382	104,181
Governor General's Secretary ⁷	10	2,865	10	2,875

For footnotes see end of Table p. 957.

21.—Total Number of Civil Service Employees, by Departments and Principal Branches ("Non-Enumerated Classes" Excluded), and Total Expenditure Salaries and Wages of All Employees ("Non-Enumerated Classes" Included) March, 1930, and March, 1931—continued.

Department.	March, 1930.		March, 1931.	
	No.	Expenditure.	No.	Expenditure.
		\$		\$
10. House of Commons—				
Clerk of the House.....	220	44,161	289	45,161
Sergeant-at-Arms.....	236	20,987	310	22,987
Totals, House of Commons.....	456	65,148	599	68,148
11. Immigration and Colonization.....	955	122,268	883	114,268
12. Indian Affairs—				
Main Department.....	669	63,625	696	60,625
Educational Branch.....	366	23,294	378	23,294
Totals, Indian Affairs.....	1,035	86,919	1,074	83,919
13. Insurance.....	38 ^s	7,425	40 ^s	7,425
Fire Prevention Branch.....	2	530	2	530
14. Interior.....	2,415	364,759	2,037	320,759
15. International Joint Commission.....	5	2,393	5	2,393
16. Justice—				
Main Department.....	45	9,882	46	9,882
Clemency Branch.....	10	2,048	12	2,048
Purchasing Agent's Office.....	7	995	7	995
Penitentiaries.....	614	80,026	722	80,026
Supreme Court.....	22	3,877	22	3,877
Exchequer Court.....	9	1,490	10	1,490
Totals, Justice.....	707 ^s	98,318	819 ^s	100,318
17. Labour—				
Main Department.....	115 ^s	18,695	118 ^s	18,695
Annuities.....	24	2,925	22	2,925
Technical Education.....	2	377	3	377
Totals, Labour.....	141 ^s	21,997	143 ^s	21,997
18. Library of Parliament.....	24	4,691	25	4,691
19. Marine—				
Main Department.....	3,537	419,360	3,672	509,360
Meteorological Branch.....	543	16,460	570	16,460
Totals, Marine.....	4,080	435,820	4,242	525,820
20. Mines.....	383	69,548	532 ¹⁰	169,548
21. National Defence—				
General Defence Administration.....	271	38,614	274	38,614
Militia Services.....	562	52,796	596	52,796
Naval Services.....	156	33,706	159	33,706
Air Services.....	95	11,625	165	11,625
Military Topographic Surveys.....	25	4,797	27	4,797
Royal Military College.....	76	10,538	78	10,538
Dominion Arsenal, Quebec, inc. Ammun. Inspection.....	59	26,364	59	26,364
Totals, National Defence.....	1,244	178,440	1,358	199,440
22. National Revenue—				
Income Tax Division.....	4,970	725,197	5,153	745,197
Totals, National Revenue.....	1,161	156,845	1,156 ¹¹	156,845
Totals, National Revenue.....	6,131	882,042	6,309 ¹¹	902,042
23. Pensions and National Health—				
Pensions.....	1,944	234,949	2,222	264,949
Board of Pension Commissioners.....	147	25,606	199	25,606
Health.....	373	51,156	340	51,156
Federal Appeal Board.....	54	11,095	—	—
Pensions Appeal Court.....	—	—	11	—
Pensions Tribunal.....	—	—	76	—
Totals, Pensions and National Health.....	2,518	322,806	2,848	367,806

For footnotes see end of Table p. 957.

Total Number of Civil Service Employees, by Departments and Principal Branches ("Non-Enumerated Classes" Excluded), and Total Expenditure on Salaries and Wages of All Employees ("Non-Enumerated Classes" Included), March, 1930, and March, 1931—concluded.

Department.	March, 1930.		March, 1931.	
	No.	Expenditure.	No.	Expenditure.
		\$		\$
Post Office—				
Civil Government.....	927	127,339	944	123,510
Outside Service.....	10,812	2,600,418	11,017	2,777,003
Totals, Post Office.....	11,739	2,727,757	11,961	2,900,513
Privy Council.....	20	4,028	18	4,080
Public Printing and Stationery.....	715	112,731	721	111,096
Public Works—				
Civil Government.....	337	56,287	338	59,066
Outside Service.....	3,111	357,769	3,183	367,651
Government Telegraph Service.....	582	52,102	529	40,887
Totals, Public Works.....	4,030	466,158	4,050	467,604
Railways and Canals.....	1,267	295,695	1,330	306,428
Board of Railway Commissioners.....	111	25,041	111	23,611
Royal Canadian Mounted Police.....	70	108,272	78	105,607
Secretary of State.....	113	14,750	114	14,929
Patents and Copyrights.....	103	14,837	106	15,303
Senate.....	122	16,612	126	16,534
Elders' Settlement Board.....	528	78,607	504	83,904
Trade and Commerce—				
Headquarters and Miscellaneous Branches.....	100	19,354	160	29,382
Board of Grain Commissioners.....	823	131,438	861	137,192
Dominion Bureau of Statistics.....	239	29,573	318	36,129
Weights and Measures.....	128	20,207	125	19,647
Electricity and Gas.....	95	16,261	99	16,860
Commercial Intelligence Service.....	79	39,054	91	44,592
Motion Picture Bureau.....	20	3,260	24	3,610
Exhibitions.....	32	7,172	30	9,941
Canadian Government Elevators.....	159	21,854	162	21,172
Totals, Trade and Commerce.....	1,675	288,173	1,870	318,525
Grand Totals.....	44,175	7,443,404	45,581	7,895,591

Including Commissioners and their salaries. ²Refund of \$297 has been deducted. ³Including allowance. ⁴Including four employees on leave without pay. ⁵Including three employees on leave without pay. ⁶Refund of \$1,440 has been deducted. ⁷Salaries of A.D.C.'s are included, but their number. ⁸Includes one employee on leave without pay. ⁹Including two employees on leave without pay. ¹⁰The actual number of employees was 402. The salaries of 130 seasonal temporary employees engaged for varying periods throughout the year were charged to this month. ¹¹Includes thirteen employees on leave without pay.

Section 10.—Harbour Commissions.¹

In the 1930 Year Book, at p. 1013, a short article was published on the various Harbour Commissions in Canada which outlined the administration of these bodies. In the year 1931 the Government secured the services of the firm of Sir Alexander Gibb and Partners of London, England, to make a survey and report on these present Harbour Commissions, under the following instructions:—

1. To report upon the efficiency of existing facilities;
2. To report upon the additional facilities required to take care of the increasing traffic of the ports for a period of 25 to 50 years, keeping in mind the use to the maximum of existing facilities;
3. To report on the best method of administration, whether through Harbour Commissions or a Department of Government with a General Manager, or otherwise, for the purpose of securing economy and efficiency, due regard being had to the fact that the monies of the taxpayers of the whole of Canada will be used in the development of the ports.

Prepared by A. R. Tibbits, Marine Department, Ottawa.

The report was received about the middle of February, 1932, and is now under consideration by the Government. One of the principal recommendations is the reorganization of the administration of the ports under a central authority located at Ottawa, responsible to the Government through the Minister of Marine. This authority will have full control of the financing; of the development of the ports and the provision of the necessary engineering staff; and of the supervision of the operation of the ports—the latter under the direct charge of a Port Director at each port, who will be Chairman of a Local Advisory Board reporting directly to the central control. Recommended changes in the present capital structures of the different ports are made, and there are recommendations, covering a period extending over the next twenty-five years, as to additional development or curtailment of development, as the case may be, at each port.

Section 11.—Other Miscellaneous Administration.

In previous editions of the Canada Year Book this chapter has been brought into a close with outlines of Dominion Government administration as follows:—

Section 12.—The International Joint Commission.

Section 13.—The Geodetic Survey of Canada.

Section 14.—The Topographical Survey.

Section 15.—The Dominion Observatories.

No material change has taken place in these sections and the reader is referred to pp. 1014-17 of the 1930 Year Book for this information.

Section 12.—The Advisory Board on Tariff and Taxation.

An Advisory Board on Tariff and Taxation, established by the Liberal Administration under the Right Hon. W. L. Mackenzie King in 1926 for the purpose of advising the Minister of Finance in regard to tariff, taxation and related matters (see 1930 Year Book, p. 1018), was dissolved in 1930 by the Conservative Administration of the Right Hon. R. B. Bennett. On May 15, 1931, however, the Prime Minister introduced a Bill in the House of Commons to create a Federal Tariff Board as a fact-finding body (see Chapter XXIX, Section 1, under "Finance and Taxation"). At the date of writing, appointments to the Board have not been made.

CHAPTER XXIX.—SOURCES OF OFFICIAL STATISTICAL AND OTHER INFORMATION RELATIVE TO CANADA.

The chief source of information on the current state of the country is the Dominion Bureau of Statistics, organized as the central statistical bureau for Canada, and described in the first part of this chapter; a list of its publications, which cover almost the whole field of the national statistics, is given in Section 1.

The second section of the chapter contains a list of the Acts of Parliament administered by the several departments of the Dominion Government, and the third section a bibliography of the publications of these departments. This is followed, in Section 4, by a bibliography of the publications of Provincial Governments.

Section 1.—The Dominion Bureau of Statistics.¹

The Dominion Bureau of Statistics was set up by Statute in 1918 as a central statistical department for Canada (8-9 Geo. V, c. 43). The Act was a consolidation of all previous statistical legislation and was based on the report of a Commission on Statistics, appointed in 1912, which recommended (a) a series of specific reforms and enlargements in Canadian statistics, and (b) a policy of statistical coordination for the Dominion, under central direction. In 1915, following the recommendations in this report, the office of Dominion Statistician was created.

The Bureau has been constituted by the transfer or absorption, by Orders in Council, of the following work and branches: (1) the Census and Statistics Office covering the census, and also agriculture, general manufactures and criminal statistics), (2) Fisheries Statistics, (3) Mining Statistics, (4) Forestry Statistics, (5) Dairying and Fruit Statistics, (6) Water- and Electric-Power Statistics, (7) the Harbours and Canals Statistical Branch of the Department of Railways and Canals, the Trade Statistical Branch (exports and imports), (9) Grain Trade Statistics, (10) Live-Stock Statistics, (11) Prices Statistics, and (12) Employment Statistics. In addition four new branches were created, dealing respectively with Public Finance, Internal Trade, Vital Statistics, and Education. Subsequently the statistical activities of the Fuel Controller and the Board of Commerce were absorbed. Modifications of the Bankruptcy, Public Health and Railway Acts, and of the legislation *re* franking privileges were also made, with a view to facilitating the collection of statistics.

The Bureau has completed the plans for a unified, nation-wide statistical system, covering every important phase of social and economic activity, and has unified them out to a considerable degree.

The main achievement of the Bureau has been in the organization of the several subjects in correlation with each other in accordance with this general plan, and the consequent establishment of a comprehensive viewpoint of the country as a "single concern". In addition, there has been created what is frequently called a central "thinking office" in statistics, continuously in touch with general conditions and the line of probable developments.

¹A more complete account of the formation and activities of the Bureau of Statistics will be found on pages 61-964 of the 1922-23 Year Book.

The final concept in the organization of the Bureau of Statistics is that of a national laboratory for social and economic research. Statistics are not merely a record of what has been, but are for use in planning what shall be; it is the duty of a statistical bureau to assist directly in the day-to-day problems of administration as well as to provide their theoretic background. One of the most significant recent developments in administration is the extent to which statistical organization has been increased as a guide to national policy. Though its usefulness is only begun, the Dominion Bureau of Statistics has laid the foundations for a service comparable with the increasingly important position taken by Canada in the economic and political world.

Publications of the Bureau.—The first annual report of the Dominion Statistician contained a full description of the organization of the Bureau and its subject matter.¹ The main Divisions of the Bureau are as follows:—I. Administration; II. Population—Census and Vital Statistics; III. Agricultural Statistics; IV. Fisheries, Furs and Dairy Products; V. Mining, Metallurgical and Chemical Statistics; VI. Forestry and Allied Industries; VII. General Manufactures; VIII. External Trade (Imports and Exports); IX. Internal Trade; X. Transportation; XI. Financial Statistics; XII. Statistics of Administration of Justice; XIII. Education Statistics; XIV. General Statistics. The publications of the several Divisions are as follows:—

ADMINISTRATION—

Annual Report of the Dominion Statistician.

POPULATION—

Census—

I. *Census of Population and Agriculture, 1931.*

Bulletins of the Seventh Census of Canada, 1931, as follows:—

- (1) Population:—*Preliminary Bulletins.*—(1) to (3) Cities, Towns and Villages. (4) Ontario Villages. (5) Montreal Island. (6) Cities, Towns and Villages. (7) Villages of Manitoba, Saskatchewan and Alberta. (8) Villages of Quebec. (9) Cities, Towns and Villages. (10) Maritime Provinces by Federal Electoral Districts. (11) Ontario by Federal Electoral Districts. (12) Prairie Provinces by Federal Electoral Districts. (13) Quebec by Federal Electoral Districts. (14) British Columbia by Federal Electoral Districts; Yukon and Northwest Territories. (15) Canada by Provinces. (16) Cities replacing Census Bulletins 1, 2, 3, 5 and 17. (17) Towns replacing Bulletins 1, 2, 3, 5, 6 and 9. *Final Bulletins.*—(I) New Brunswick. (II) Nova Scotia. (III) Manitoba. (IV) Canada by Provinces. (V) Canada by Provinces, replacing IV. (V) Saskatchewan. (VI) Alberta. (VII) Quebec. (VIII) Ontario. (IX) British Columbia. (X) Prince Edward Island. (XI) Rural and Urban Population. (XII) Yukon and Northwest Territories.
- (2) Agriculture:—*Preliminary Bulletins.*—(1) Number of Occupied Farms by County or Census Divisions 1931 and 1921; and the Number of Vacant or Abandoned Farms 1931. Preliminary Acreage: (1) Prince Edward Island. (2) New Brunswick. (3) Saskatchewan. (4) Manitoba. (5) British Columbia. (6) Ontario. (7) Nova Scotia. (8) Quebec. (9) Alberta. (10) Canada. Livestock by Counties: (1) Prince Edward Island. (2) Nova Scotia. (3) New Brunswick. (4) Ontario. Preliminary acreage by Counties. (5) Manitoba Livestock by Census Divisions. (6) New Brunswick Preliminary Acreage by Counties. (7) Alberta Livestock by Census Divisions. (8) Saskatchewan Livestock by Census Divisions. (9) British Columbia Livestock by Federal Electoral Districts. (10) Quebec Livestock by Counties. (11) Ontario Livestock by Counties. *Final Bulletins.*—Area and Yield of Field Crops 1930 and 1920: (22) Prince Edward Island; (23) Nova Scotia. (24) New Brunswick; (25) Ontario; (26) Quebec.

¹This report for the year ended Mar. 31, 1919, is now out of print.

POPULATION—concluded.

Census—

Census of Population and Agriculture, 1921.

Bulletins of the Sixth Census of Canada, 1921, as follows:—

- (1) Population: (a) Population of Canada, 1921, by Provinces, Electoral Districts, Cities, Towns, etc. (b) Religions of the People, 1921. (c) Origins of the People, 1921. (d) Dwellings and Families, 1921. (e) Birthplaces of the People, 1921. (f) Citizenship of the Foreign-born, 1921. (g) Year of Immigration, 1921. (h) Ages of the People, 1921. (i) Conjugal Condition of the People, 1921. (j) Language Spoken and Mother Tongue, 1921. (k) Literacy, 1921. (l) School Attendance, 1921. (m) Occupations, 1921. (n) Children in Gainful Occupations, 1921. Also bulletins on population by provinces as follows: (a) Population of Nova Scotia—Electoral Districts, etc. (b) Population of Prince Edward Island—Electoral Districts, etc. (c) Population of New Brunswick—Electoral Districts, etc. (d) Population of Quebec—Electoral Districts, etc. (e) Population of Ontario—Electoral Districts, etc. (f) Population of Manitoba—Electoral Districts, etc. (g) Population of Saskatchewan—Electoral Districts, etc. (h) Population of Alberta—Electoral Districts, etc. (i) Population of British Columbia—Electoral Districts, etc.
- (2) Agriculture: (a) Field Crops of Prairie Provinces, 1921. (b) Agriculture of Canada—General Summary. (c) Pure-bred Domestic Animals, 1921. (d) Agriculture of Nova Scotia, 1921. (e) Agriculture of Prince Edward Island, 1921. (f) Agriculture of New Brunswick, 1921. (g) Agriculture of Quebec, 1921. (h) Agriculture of Ontario, 1921. (i) Agriculture of Manitoba, 1921. (j) Agriculture of Saskatchewan, 1921. (k) Agriculture of Alberta, 1921. (l) Agriculture of British Columbia, 1921.

Reports of the Sixth Census of Canada, 1921, as follows:—

- Vol. I. Introduction—Number, Sex and Distribution—Racial Origins—Religions.
- Vol. II. Ages—Conjugal Condition—Birthplace—Birthplace of Parents—Year of Immigration and Naturalization—Language Spoken and Mother Tongue—Literacy—School Attendance—Blindness and Deaf-Mutism. (Out of print.)
- Vol. III. Families—Dwellings—Ownership of Homes—Rentals—Earnings. (Out of print.)
- Vol. IV. Occupations and Employment.
- Vol. V. Agriculture. Farm Holdings by size, tenure, value, etc.—Farm Products—Field Crops—Vegetables—Fruits—Forest Products—Live Stock—Animal Products—Statistics of Operators.

Census Monographs, 1921.

Illiteracy and School Attendance in Canada.

Origin, Birthplace, Nationality and Language of the Canadian People.

I. Census of Population and Agriculture of the Prairie Provinces, 1926.

Report of the Census of Population and Agriculture of the Prairie Provinces, 1926.

Census of Manitoba—Population and Agriculture.

Census of Saskatchewan—Population and Agriculture.

Census of Alberta—Population and Agriculture.

Preliminary Bulletins as follows: (a) Population of Manitoba—Electoral Districts, etc. (b) Population of Saskatchewan—Electoral Districts, etc. (c) Population of Alberta—Electoral Districts, etc. (d) Animals on Farms in the Prairie Provinces, 1926. (e) Farm Lands and Crops in the Prairie Provinces, 1926.

V. Intercensal Estimates of Population.

Births, Deaths and Marriages—

Vital Statistics.

Annual Report on Vital Statistics of Canada by Provinces and Municipalities.

Preliminary Annual Report on Vital Statistics of Canada.

Monthly Report of Births, Deaths and Marriages registered in Cities.

Report of Conference on Vital Statistics, held June 19-20, 1918, pp. 1-48.

Special Report on Contributory Causes of Death, 1926.

Order of Birth in the Registration Area of Canada, 1925.

PRODUCTION—**I. General Summary of Production.**

Including and differentiating gross and net: 1) Primary Production (Agriculture, Fishing, Furs, Forestry and Mining) and 2) Secondary Production, or General Manufactures.

II. Agriculture.**(1) Agricultural Production.**

Monthly Bulletin of Agricultural Statistics. The official record of current statistics relating to agriculture. Contains reports on agricultural conditions, production, weather, etc.—estimates of areas, yields, quality and value of field crops—value of farm lands—wages of farm help—number and values of farm live stock—poultry—statistics of fruit and floriculture—honey—tobacco—hives and honey—maple syrup and sugar—clover and grass seed—miscellaneous crops—stocking grain—annual summary of value of agricultural production—index numbers—agricultural prices, yields and values—international agricultural statistics.)

Advance Summaries of Agricultural Statistics.

Telegraphic Crop Reports (between the first of June and the first of September, weekly for the Prairie Provinces and every two weeks for the rest of Canada.)

Agricultural Statistics by Counties and Crop Districts, 1922-24 and 1925-29.

Annual Statistics of Fruit and Floriculture, latest issue, 1931.

Handbook of Instructions to Crop Correspondents, and Summary of Annual Agricultural Statistics, 1931.

[See also Censuses of Agriculture above.]

(2) Grain and Grain Products.

(a) Annual Report of the Grain Trade of Canada; (b) Monthly Review of Wheat Situation; (c) Canadian Grain Statistics—weekly report on grain supply and movements; (d) Canadian Milling Statistics—monthly; (e) List of Mills and Capacity.

(3) Live Stock and Animal Products.

(a) Annual Report on Live Stock and Animal Products; (b) Monthly Report on Stocks in Cold Storage; (c) Estimated Consumption of Meats, Butter, Cheese, Eggs and Poultry in Canada.

(4) Other.

Monthly Report on Raw and Refined Sugar (visible supply, meltings, shipments, exports and imports).

III. Furs.

Advance Summaries of Fur Farm Statistics by Provinces.

Annual Report on Fur Farms.

Annual Report on the Production of Raw Furs, comprising the pelts taken by trappers and those sold from fur farms.

IV. Fisheries.

Annual Report on Fisheries Statistics.

Advance Summaries on Fish Caught and Marketed by Provinces.

V. Forestry.

Annual Summary of the Value, etc., of Forest Production. (Covers operations in woods for saw-mills, shingle mills, pulp and paper mills, etc., production of mill timber, production of poles and cross ties, and farm production (decennial firewood, posts, etc.)

[See also Reports on Manufactures of Forestry Products listed under "Manufactures" Section VII, subsection (5).]

VI. Mineral Production: (Mining and Metallurgy.)**(1) General.**

(a) Annual Report on the Mineral Production of Canada; (b) Preliminary Report (semi-annual) on the Mineral Production of Canada; (c) Monthly Report on Lead Minerals.

(2) Coal.

(a) Annual Report on Coal Statistics for Canada; (b) Monthly Summary Report on Coal and Coke Statistics for Canada; (c) Quarterly Report on Coal and Coke Statistics for Canada.

(3) Annual Bulletins on Mining as follows:—

1. **Metals**—(a) Arsenic; (b) Cobalt; (c) Copper; (d) Gold; (e) Lead; (f) Nickel; (g) Metals of the Platinum Group; (h) Silver; (i) Zinc; (j) Miscellaneous Metals, including Aluminium, Antimony, Chromite, Iron Ore, Magnesia, Mercury, Molybdenum, Tin, Tungsten.

2. **Non-Metallic Minerals**—(a) Abrasives; (b) Asbestos; (c) Coal; (d) Feldspar; (e) Gypsum; (f) Iron Oxides; (g) Mica; (h) Natural Gas; (i) Petroleum; (j) Quartz; (k) Salt; (l) Talc and Soapstone; (m) Miscellaneous Non-Metallic Minerals, including Actinolite, Barytes, Fluorspar, Graphite, Magnesite, Nesium Sulphate, Mineral Waters, Natro-Alunite, Peat, Phosphate, Pyrites, Sodium Carbonate, Sodium Sulphate.

DUCTION—continued.

3. *Structural Materials*—(a) Cement; (b) Clay and Clay Products; (c) Lime; (d) Sand and Gravel; (e) Stone.
4. *Mining Industries*—(a) Gold Mining Industry (including Alluvial-Gold Mining, Auriferous Quartz Mining and Copper-Gold-Silver Mining); (b) Silver, Cobalt and Silver-Lead-Zinc Mining Industry; (c) Nickel-Copper Mining Industry; (d) Miscellaneous Metal Mining Industries; (e) Non-ferrous Smelting and Refining Industry; (f) Coal Mining, Coke, Natural Gas, Peat and Petroleum Industries; (g) Miscellaneous Non-Metal Mining Industries; (h) Clay Products and Other Structural Materials Industries.

See also Reports on Iron and Steel and their Products, Manufactures of Non-Ferrous Metals, and Chemicals and Allied Products, listed under "Manufactures", Section VII, Sections (6), (7), (8) and (9).]

Manufactures.

- (1) *General*—General Summary for Canada, also for the Provinces and Leading Cities (industrial groups classified by component materials, purposes, etc., of products—comparative statistics); Alphabetical List of Products; Quantity of Manufacturing Production in Canada, 1923-1929.
- (2) *Manufactures of Vegetable Products*—Annual Bulletins as follows: (a) Coffee and Spices; (b) Fruit and Vegetable Preparation, including canning, evaporating and preserving; (c) Pickles, Sauces, Vinegar and Cider; (d) Flour and Grist Mill Products (see also under heading "Agriculture"); (e) Bread and other Bakery Products; (f) Biscuits and Confectionery including Cocoa and Chocolate; (g) Macaroni and Vermicelli; (h) Liquors, Distilled; (i) Liquors, Malt; (j) Liquors, Vinous; (k) Rubber Goods and Rubber Boots and Shoes; (l) Glucose; (m) Sugar Refineries; (n) Tobacco Products; (o) Linseed Oil and Oil Cake; (p) The Canned Foods Industry; (q) Ice Cream; (r) Pack of Fruits and Vegetables.
- (3) *Animal Products and their Manufactures*—Annual Reports and Bulletins as follows: (a) The Dairy Factory Industry; (b) Slaughtering and Meat Packing and Allied Industries; (c) Fish and Fish Products; (d) Leather Tanneries; (e) Harness and Saddlery, Leather Belting, Trunks and Valises, Miscellaneous Leather Goods; (f) Leather Boots and Shoes, Leather Boot and Shoe Findings; (g) Leather Gloves and Mitts; (h) Fur Goods, Fur Dressing. Monthly Report on Boot and Shoe Production. Monthly Report on Concentrated Milk Products.
[See also Reports on Live Stock, etc., listed under "Agriculture".]
- (4) *Textile and Allied Industries*—General Report on The Textile Industries of Canada, 1928—Annual Bulletins as follows: (a) Cotton Textiles (cloth, yarn, thread and waste); (b) Woollen Textiles (cloth, yarn, waste, carpets, etc., and woollen goods, n.e.s.); (c) The Silk Industry; (d) Clothing, Men's Factory; (e) Clothing, Women's Factory; (f) Hats and Caps; (g) Hosiery and Knit Goods; (h) Men's Furnishings, n.e.s.; (i) Oiled Clothing and Waterproofs; (j) Cordage, Rope and Twine; (k) Corsets; (l) Cotton and Jute Bags; (m) Dyeing, Cleaning and Laundry Work.
- (5) *Manufactures of Forestry Products*—Printed Annual Reports as follows: (1) The Lumber Industry; (2) The Pulp and Paper Industry; (3) Wood-Using Industries; (4) Paper-Using Industries. Mimeographed Preliminary Reports as follows: (a) The Lumber Industry; (b) Lumber Distribution in Canada and the United States (Biennial); (c) The Pulp and Paper Industry; (d) Planing Mills, Sash and Door Factories; (e) Furniture; (f) Boxes, Baskets and Crates; (g) Carriages, Wagons and Materials; (h) Cooperage; (i) Coffins and Caskets; (j) Sporting Goods; (k) Boatbuilding; (l) Lasts, Trees and Shoe Findings; (m) Handles, Spools and Wood-turning; (n) Woodenware; (o) Excelsior; (p) Miscellaneous Wood-Using Industries; (q) Printing and Publishing; (r) Printing and Bookbinding; (s) Lithographing; (t) Engraving, Electrotyping, Stereotyping and Blueprinting; (u) Trade Composition; (v) Paper Boxes and Bags; (w) Stationery and Envelopes; (x) Roofing Paper and Wallboard; (y) Miscellaneous Paper Goods.
- (6) *Iron and Steel and Their Products*—Annual Report. Annual Bulletins as follows: (a) Pig Iron and Ferro-Alloys; (b) Primary Iron and Steel; (c) Castings and Forgings; (d) Boilers and Engines; (e) Agricultural Implements; (f) Machinery; (g) Automobiles; (h) Automobile Supplies; (i) Railway Rolling Stock; (j) Wire and Wire Goods; (k) Sheet Metal Products; (l) Hardware and Tools; (m) Bridge Building and Structural Steel; (n) Miscellaneous Iron and Steel Products. Monthly reports on (a) Iron and Steel; (b) Automobile Statistics. Commodity bulletins on the production of Washing Machines; Galvanized Sheets; Wire Nails; Wire Rope and Cable; Steel Wire; Wire Fencing; Stoves, etc.
- (7) *Manufactures of Non-Ferrous Metals*—Report issued biennially. Annual Bulletins as follows: (a) Aluminium Products; (b) Brass and Copper Products; (c) Lead, Tin and Zinc Products; (d) Jewellery and Silverware; (e) Electrical Apparatus and Supplies; (f) Miscellaneous Non-Ferrous Metal Goods. Quarterly Report on Production and Sales of Radio Sets. Commodity Bulletins on the Production of Batteries; Vacuum Cleaners, etc.

PRODUCTION—concluded.

- (8) *Manufactures of the Non-Metallic Minerals*—Report issued biennially. Annual Bulletins as follows: (a) Aerated Waters; (b) Asbestos and Allied Products; (c) Cement; (d) Cement Products; (e) Coke and Gas; (f) Glass (blown, cut and ornamental); (g) Lime; (h) Petroleum Products; (i) Products from Domestic Clays; (j) Products from Imported Clays; (k) Salt; (l) Sand-lime Brick; (m) Stone; (n) Artificial Abrasives and Abrasive Products; (o) Miscellaneous Non-Metallic Mineral Products, including Artificial Graphite and Electrodes—Gypsum Products—Mica Products—Magnesite Products—Non-Metallic Minerals, n.e.s. Also special report on the Consumption of Coke in Canada. Monthly Report on Coke Statistics.
- (9) *Chemicals and Allied Products*—Annual Report. Annual Bulletins as follows: (a) Coal Tar Distillation; (b) Acids, Alkalies and Salts; (c) Compressed Gases; (d) Explosives, Ammunition and Fireworks; (e) Fertilizers; (f) Medicinal and Pharmaceutical Preparations; (g) Paints, Pigments and Varnishes; (h) Soaps and Washing Compounds; (i) Toilet Preparations; (j) Inks; (k) Adhesives; (l) Polishes and Dressings; (m) Flavouring Extracts; (n) Wood Distillation; (o) Miscellaneous Chemical Products, including Baking Powder; Boiler Compounds; Celluloid Products; Insecticides; Sweeping Compounds; Disinfectants; Matches; Dyes and Colouring; Chemical Products, n.e.s. Special Report on the Fertilizer Trade in Canada. Commodity Bulletins on Sulphuric Acid and Ammonium Sulphate.
- (10) *Miscellaneous Manufactures*—Annual Bulletins as follows: (a) Brooms, Brushes and Mops; (b) Musical Instruments (including pianos, organs and phonographs); (c) Musical Instrument Materials and Parts; (d) Buttons; (e) Beds, Springs and Mattresses.

N.B.—For Statistics of Water Power and Central Electric Stations, see under heading "Public Utilities".

VIII. Construction.—(a) Building Permits—Monthly and Annual Record.**EXTERNAL TRADE (IMPORTS AND EXPORTS)—**

- (1) Annual Report of the Trade of Canada, for the fiscal year ended Mar. 31 (showing summary historical tables, analyses of current trends, detailed tables by import and export group analyses according to component material, origin and degree of manufacture, and purpose, and comparisons of the volume of trade).
- (2) Condensed Preliminary Report of the Trade of Canada, for the fiscal year ended Mar. 31.
- (3) Annual Report of the Trade of Canada for the calendar year.
- (4) Advance Preliminary Statement regarding the Trade of Canada during the calendar year.
- (5) Quarterly Report of the Trade of Canada (showing statistics of imports and exports by months and cumulative quarters).
- (6) Monthly Summary of the Trade of Canada (for latest month and 12 months).
- (7) Monthly Bulletins on Trade Statistics as follows: *General*.—(a) Abstract of Imports and Exports, and Duty Collected (by latest month, accrued period, and latest 12 months); (b) Summary of Canada's Imports for latest month; (c) Summary of Canada's Exports for latest month. *Special*.—(d) Imports and Exports of Asbestos; (e) Imports and Exports of Footwear (except Rubber); (f) Summary of Imports of Grain and Flour; (g) Exports of Lumber; (h) Imports of Lumber; (i) Exports of Meats and Lard; (j) Imports of Meats and Lard; (k) Exports of Milk, Milk Products and Eggs; (l) Imports of Milk, Milk Products and Eggs; (m) Exports of Ferrous Ores and Smelter Products; (n) Imports of Non-Ferrous Ores and Smelter Products; (o) Exports of Paints and Varnishes; (p) Imports of Paints and Varnishes; (q) Exports of Pulp Wood, Wood Pulp and Paper; (r) Exports of Iron Goods and Insulated Wire; (s) Imports of Rubber Goods; (t) Exports of Vehicles of Iron (Automobiles, Bicycles, Railway Cars, etc.); (u) Imports of Vehicles of Iron (Automobiles, Bicycles, Railway Cars, etc.); (v) Exports of Petroleum and Petroleum Products; (w) Imports of Petroleum and Its Products; (x) Imports of Sheet Metal Products; (y) Exports of Farm Implements and Machinery; (z) Imports of Farm Implements and Machinery; (aa) Imports of Coffee and Tea.

INTERNAL TRADE—**(1) Prices Statistics.**

- Annual and Monthly Reports on Wholesale and Retail Prices and Price Index in Canada.
- Annual and Monthly Reports on Wholesale and Retail Prices and Price Index in the British Empire and Foreign Countries.
- Index Numbers of Average Cost of Living in Canada.
- Monthly and Weekly Index Numbers (Speculative) of Security Prices.
- Monthly and Weekly Index Numbers (Investment) of Security Prices.
- Monthly and Weekly Index Numbers of Mining Stocks.
- Prices and Price Index Numbers of Services (Street Cars, Telephones, Electricity, Natural and Manufactured Fuel Gas, Hospitals, Doctors' Fees, etc.).
- Interest and Exchange Rates.

ERNAL TRADE—concluded.**Index Numbers of Import and Export Valuations.**

Special Bulletins as follows: (a) Post-War Sugar Prices; (b) Post-War Prices of Raw Cottons; (c) Post-War Silver Prices; (d) Post-War Tin Prices; (e) Post-War Copper Prices; (f) Post-War Lead Prices; (g) Gasolene Prices; (h) Coffee Prices; (i) Wool Prices; (j) Post-War Rubber Prices; (k) Price Trends and Economic Conditions in Germany (May, 1927); (l) Price Trends and General Economic Conditions in France (May, 1927); (m) Price Trends and General Economic Conditions in Great Britain (May, 1927); (n) Wholesale Prices in the British Empire and Foreign Countries, and Exchange Rates in 1925 (with reference to important trade tendencies in the leading countries); (o) Trend of Commodity Prices in Canada, Past and Future; (p) Recent Movements in Canadian Living Costs; (q) Exchange, 1931; (r) Price Movements, 1931.

(2) Trading Establishments.

Decennial Census of Wholesale and Retail Trading Establishments.
Annual Statistics of Chain Stores.

(3) Capital Movements.

Annual Records and Estimates of Capital Investments by Foreigners in Canada and of Canadian Investments in Foreign Countries.

(4) Balance of International Payments.

Compilation of Canada's Annual Balance of Payments.
Estimation of the Invisible Items in Canada's Trade Balance (Receipts and Payments for Interest, Freight, Insurance, Non-Commercial Remittances, Government Expenditures, Capital of Immigrants and Emigrants, etc.).

(5) Retail Sales.

Index Numbers of Retail Sales.

(6) Record of Branch Plant Development in Canada.

Lists of New Concerns Locating in Canada in Recent Years.

TRANSPORTATION, COMMUNICATIONS AND PUBLIC UTILITIES—

(1) Railways and Tramways.—(a) Annual Report on Railway Statistics; (b) Annual Report on Electric Railway Statistics; (c) Annual Summary of Monthly Railway Traffic Report; (d) Monthly Bulletin on Railway Revenues, Expenses, Incomes and Operating Statistics; (e) Monthly Statement of Traffic of Railways; (f) Weekly Report of Car Loadings of Revenue Freight.

(2) Express.—Annual Report on Express Statistics.

(3) Telegraphs.—Annual Report on Telegraph Statistics.

(4) Telephones.—Annual Report on Telephone Statistics.

(5) Water Transportation.—(a) Annual Report on Canal Statistics; (b) Monthly Report on Canal Statistics; (c) Report of Census of Canadian Registered Ships.

(6) Electrical Stations.—(a) Annual Report on Central Electric Stations in Canada; (b) Report on Index Numbers of Electric Light Rates; (c) Monthly Report on Electric Energy Generated—included in Monthly Review of Business Statistics.

(7) Motor Vehicles.—(a) Annual Report on Motor Vehicle Registrations; (b) Highways—Annual Report on Highway Mileage Open for Traffic, Construction and Expenditures on Construction and Maintenance.

ANCE—**(1) Municipal.**

(a) Annual Municipal Statistics of Urban Municipalities of 10,000 Population and Over. (b) Municipal Statistics of Urban Municipalities of 1,000 to 5,000 Population, 1922. (c) Annual Bulletins on Assessed Valuations by Provinces, Municipal Bonded Indebtedness, etc.

(2) Dominion.—(a) Statistics of the Civil Service of Canada—Annual Report; (b) Statement of Civil Service Personnel and Salaries in the Months of January, 1912-1924.

(3) Provincial.—Annual Report.

TICE—

(1) Criminal Statistics.—Annual Report (covering convictions, sentences, prison statistics, police statistics, pardons, commutations and executions). Preliminary Report on Criminal Statistics.

(2) Juvenile Delinquency.—Annual Bulletin.

EDUCATION—

- (1) Report of Dominion-Provincial Conference on Education Statistics, held October 1920.
- (2) Historical Statistical Survey of Education in Canada (1921). (Out of print.)
- (3) Illiteracy and School Attendance in Canada—A Study of the Census of 1921 with Supplementary Data.
- (4) Annual Survey of Education in Canada. Published yearly since 1921, covering following:—
 - (a) Provincially-controlled schools.
 - (b) Universities and colleges.
 - (c) Private schools.
 - (d) Schools for native Indians.
 - (e) Organizations and societies of provincial or Dominion scope directly connected with the above-listed institutions.
- (5) Statistical Survey of Canadian Libraries, 1929-30.
- (6) Reports on special subjects in the field of education are issued from time to time.

GENERAL—

- (1) *National Wealth and Income*.—Estimates of the National Wealth of Canada, Provinces, Industries, etc.—Summary of Income Tax Receipts.
- (2) *Employment*.—Monthly and Annual Reports on Employment, with Index Number of Employment by Localities and Industries.
- (3) *Commercial Failures*.—Monthly and Annual Reports.
- (4) *Bank Debits*.—Monthly and Annual Reports of Bank Debits to Individual Accounts at the Clearing-House Centres of Canada.
- (5) *Business Statistics*.—The Monthly Review of Business Statistics (a statistical summary, with charts and text, of current economic conditions in Canada). Special Report—Twelve Years of the Economic Statistics of Canada, 1919-1930.
- (6) *Divorce*.—Annual Report.
- (7) *Liquor Control*.—Annual Report on the Control and Sale of Liquor.
- (8) *Tourist Trade*.—Annual Report.
- (9) *The Canada Year Book*.—The official statistical annual of the Physiography, sources, History, Institutions and Social and Economic Conditions of the Dominion, with a Statistical Summary of the Progress of Canada, maps, diagrams, Contents: I. Physical Characteristics of Canada (Geographical Features; Geological Formation; Seismology; Flora; Faunas; Natural Resources; Climate; Meteorology). II. History and Chronology. III. Constitution and Government (Constitution and General Government of Canada; Provincial and Imperial Government in Canada; Parliamentary Representation in Canada). IV. Population (Growth and Distribution). V. Vital Statistics. VI. Immigration. VII. Survey of Production. VIII. Agriculture. IX. Forestry. X. Fur Trade. XI. Fisheries. XII. Mines and Minerals. XIII. Water Powers. XIV. Manufactures. XV. Construction. XVI. External Trade. XVII. Internal Trade. XVIII. Transportation and Communications (Government Control over Transportation and Communications; Steam Railways; Electric Railways; Express Companies; Roads and Highways; Motor Vehicles; Air Navigation; Canals; Shipping and Navigation; Telegraphs; Telephones; Post Office). XIX. Labour and Wages. XX. Prices. XXI. Public Finance (Dominion Public Finance; Provincial Public Finance; Municipal Public Finance; National Wealth and Income). XXII. Currency and Banking; Loan and Trust Companies. XXIII. Insurance (and Government Annuities). XXIV. Commercial Failures. XXV. Education. XXVI. Public Health and Benevolence. XXVII. Judicial and Penitentiary Statistics. XXVIII. Miscellaneous Administration (Public Lands; National Defence; Public Works, etc.). XXIX. Sources of Official Statistical and Other Information Relative to Canada. XXX. The Annual Register (Dominion Legislation; Principal Events of the Year; Extracts from *The Canada Gazette*, re Official Appointments, Commissions, etc.). Appendix (Issues of the Canada Year Book for 1921, 1924, 1926, 1930 and 1931 are available.)

- (10) *Canada*.—The official handbook of present conditions and recent progress, published annually.

Section 2.—Acts Administered by Dominion Departments

List of the Principal Acts of Parliament administered by Departments of the Government of the Dominion of Canada, as compiled from information supplied by the respective Departments.

(Numbers within parentheses, unless otherwise indicated, denote chapters of the Revised Statutes of Canada, 1927—R.S.C., 1927.)

Agriculture.—Experimental Farm Stations (61); Fruit (80); Dairy Industry (45); Cold Storage (25); Seeds (185); Feeding Stuffs (67); Live Stock Pedigree (121); Live Stock and Live Stock Products (120); Animal Contagious Diseases (6); Meat and Canned Foods (7); Destructive Insect and Pest (47); Fertilizers (69); Root Vegetables (181); Section 5, Criminal Code (Race Track Betting) (36); Inspection and Sale (100); Maple Sugar Industry (20-21 Geo. V, c. 30).

Auditor General.—Consolidated Revenue and Audit (21-22 Geo. V, c. 27).

Civil Service Commission.—Civil Service (22).

External Affairs.—The functions and duties of this Department are defined by the Department of External Affairs Act (65) and by the International Boundary Waters Treaty of 1911 (1-2 Geo. V, c. 28), as amended by the Statute of April 3, 1914 (4 Geo. V, c. 5).

Finance.—Appropriation; Bank (12); Bills of Exchange (16); Board of Audit (10); Indian Farm Loan (66); Civil Service Superannuation (24); Consolidated Revenue and Audit (21-22 Geo. V, c. 27); Contingencies (31); Currency (40); Dept. of Finance and Treasury Board (71); Dominion Notes (41); Federal District Commission (Stats. 1926-27, c. 55); Finance (70); Interest (102); Ottawa Mint (134); Penny Bank (13); Provincial Subsidies (92); Quebec Savings Banks (14); Special War Revenue (179) (in part).

Fisheries.—Fisheries (73); Fish Inspection (72); Meat and Canned Foods (77) (so far as it relates to fish or shellfish); Deep Sea Fisheries (74); Northern Pacific Halibut Fishery Protection (75); Pelagic Sealing (153); Customs and Fisheries Protection (43) (in part); Navigable Waters Protection (140) (in part); The Biological Board Act (18) is also administered by the Minister of Fisheries.

Immigration.—The Immigration Act and Regulations, 1910 (96); the Chinese Immigration Act and Regulations, 1923 (95).

Indian Affairs.—Indian (98).

Insurance.—Insurance (101); Loan Companies (28); Trust Companies (29).

Interior.—Forest Reserves and Parks Act (78); Seed Grain Act (87); Seed Grain Regulations (88); Department of the Interior Act (103); Irrigation Act (104); Dominion Lands Act (113); Public Lands Grants Act (114); Ordnance and Admiralty Lands Act (115); Railway Belt Act (116); Dominion Lands Survey Act (117); Land Titles Act (118); Manitoba Supplementary Provisions Act (124); Migratory Birds Convention Act (130); Northwest Mounted Police Act (141); Northwest Territories Act (142); Reclamation Act (175); Saskatchewan and Alberta Roads Act (180); Soldier Settlement Act (188); Dominion Water Power Act (190); Railway Belt Water Act (211); Yukon Act (215); Yukon Placer Mining Act (216); Yukon Quartz Mining Act (217); Lac Seul Conservation Act (18-19 George V, c. 32); The National Parks Act (20-21, George V, c. 33).

Justice.—Department of Justice (106); Solicitor-General's (107); Northwest Territories (142); Yukon (215); Royal Canadian Mounted Police (160); Judges (105); Supreme Court (35); Exchequer Court (34); Admiralty (33); Petition of Right (158); Criminal Code (6); Penitentiary (154); Prisons and Reformatories (163); Identification of Criminals (38); Ticket of Leave (197); Fugitive Offenders (81); Extradition (37); Juvenile Delinquents (108); Bankruptcy (11).

King's Printer and Controller of Stationery.—Public Printing and Stationery (162); the Publication of Statutes (2).

Labour.—Labour Department (111); Conciliation and Labour (110); Industrial Disputes Investigation (112); Fair Wages Resolution of the House of Commons, 1900; Employment Offices Co-ordination (57); Technical Education (193), as amended 1929, c. 8; The Vocational Education Act, 1931 (21-22 Geo. V, c. 59); Government Annuities (as amended by Geo. V, c. 33) (7); Combines Investigation (26); Old Age Pensions (156) (as amended by 21-22 Geo. V, c. 42); White Phosphorous Matches (128); Fair Wages and Eight-Hour Day (20-21 Geo. V, c. 20); Unemployment Relief, 1930 (21 Geo. V, c. 1); Unemployment and Farm Relief Act, 1931 (20-21 Geo. V, c. 58).

Marine.—Government Harbours, Piers and Breakwaters (89); Shipping of Live Stock (122); Marine and Fisheries Department (125); Maritime Conventions (126); Navigable Waters' Protection (140); Quebec Harbour and River Police (169); Canada Shipping (186); Radiotelegraph (195); Government Vessels Discipline (203); U.S. Wreckers' (214); Bellefleur Harbour Commission (1889, c. 35); Halifax Harbour Commission (1927, c. 58); Hamilton Harbour Commission (1912, c. 98); Montreal Harbour Commission (1894, c. 48; 1909, c. 4; 1912, c. 35; 1913, c. 32; 1914, c. 42); North Fraser Harbour Commission (1913, c. 162); New Westminster Harbour Commission (1913, c. 158); Quebec Harbour Commission (1899, c. 34; 1905, c. 33); Saint John, N.B., Harbour Commission (1927, c. 67); Three Rivers, Que., Harbour Commission (1923, c. 71); Trenton, Ont., Harbour Commission (1922, c. 50); Toronto Harbour Commission (1911, c. 26); Vancouver Harbour Commission (1913, c. 54); Winnipeg and St. Boniface Harbour Commission (1912, c. 55); Chicoutimi Harbour Commission (1926, c. 6).

Mines.—Geology and Mines (83); Explosives (62); The Domestic Fuel (17 Geo. V, c. 52).

National Defence.—Department of National Defence Act (136); Naval Service Act (139); Naval Discipline Act; Militia Act (132); Militia Pension Act (133); Royal Military College Act (18-19 Geo. V, c. 7); Sec. 85 and 86 Criminal Code; Army Act; Regimental Debts Act; Aeronautics Act (3); Air Force Act.

National Revenue.—Customs Tariff (44); Customs (42); Canada Shipping (in part) (186); Animal Contagious Diseases (in part) (6); Destructive Insect and Pest (in part) (47); Export (63); Copyright (in part) (32); Petroleum and Naphtha (159); Excise (60); Special War Revenue, 1915 (179); Income War Tax, 1917 (197); Agricultural Pests Control Act (in part) (5); Customs and Fisheries Protection (in part) (43); Explosives (in part) (62).

Pensions and National Health.—*Pensions*.—Department of Pensions and National Health (Part I) (18-19 Geo. V, c. 39); War Veterans' Allowance (20-21 Geo. V, c. 48); Pension (157); Returned Soldiers' Insurance (10-11 Geo. V, c. 54, and amendments). The two latter Acts are adjudicated upon by the Board of Pension Commissioners. *National Health.*—Department of Pensions and National Health (Part II) (18-19 Geo. V, c. 39); Quarantine (168); Public Works Health (91); Leprosy (119); Canada Shipping (Sick and Distressed Mariners) (186); Proprietary or Patent Medicine (151); Opium and Narcotics (144); Food and Drugs (including Honey Act) (76).

Post Office.—Post Office (161); Special War Revenue (in part) (179).

Public Works.—Public Works (166); Government Harbours and Piers, s. 5 (89); Navigable Waters Protection (140); Telegraphs (194); Dry Dock Subsidies (191); an Act to authorize the payment of a subsidy to the Collingwood Shipbuilding Co., Ltd., (2 Geo. V, 1912, c. 17); Government Works Toll Act (167); an Act to incorporate the National Gallery of Canada (3-4 Geo. V, 1913, c. 33); an Act to authorize the payment of a subsidy to the Western Dry Dock and Shipbuilding Co., Ltd., (3-4 Geo. V, 1913, c. 57); Act to extend an agreement for one year between His Majesty the King and the Corporation of the City of Ottawa (21-22 Geo. V, c. 43); Ferries Act (68), transferred by Order in Council, June 3, 1928, for administration by Public Works Department. Act Regulating Vehicular Traffic on Dominion Property (20-21 Geo. V, c. 47).

Railways and Canals.—Department of Railways and Canals (171); Government Railways (173); Intercolonial and P.E.I. Railway Employees' Provident Fund (6-7 Edw. VII, c. 22 and amending Acts); Acts to amend the National Transcontinental Railway Act (4-5 Geo. V, c. 43 and 5 Geo. V, c. 18); Canadian National Railways (172) and amending Acts 1918, c. 13; 1929, c. 10 and 1931, c. 6; Canadian National Railway Branch Lines (14-15 Geo. V, cc. 14-32; 15-16 Geo. V, cc. 5, 6 and 7; 17 Geo. V, cc. 12-26; 18-19 Geo. V, cc. 18-36); Government Employees Compensation (30) and amending Act, 1931, c. 9; Canadian National Refunding, 1927, (17 Geo. V, c. 27); The Canadian National Refunding Act, 1928, (19-20 Geo. V, c. 11); Canadian National (Central Vermont) Financing, 1930 (20-21 Geo. V, c. 7); Canadian National Refunding, 1930 (20-21 Geo. V, c. 8); Grand Trunk Pacific Securities, 1927 (17 Geo. V, c. 7); Canadian National Steamships, 1927 (17 Geo. V, c. 29); Canadian National Railways Pension Act (19-20 Geo. V, c. 4); Canadian National Montreal Terminals Act, 1929 (19-20 Geo. V, c. 12); Maritime Freight Rates Act (79).

The "Railway Act" (Companies) confers certain powers upon the Minister of the Department. In the case of subsidized railways, the authorizing Acts are carried out under the Department, which also has certain jurisdiction where Government guarantee has been given.

Secretary of State.—Companies (27); Naturalization (138); Patents (150); Copyright (32); Trade Marks (201); Canada Temperance (196); Boards of Trade (19); Ticket of Leave (197); Trade Unions (202); Treaties of Peace.

Trade and Commerce.—Canada Grain (86) (20-21 Geo. V, c. 5); Copper Bars and Rods Bounty (13-14 Geo. V, c. 40); Electricity and Fluid Exportation (54); Electricity Inspection (55); Electric Units (56); Gas Inspection (82); Hemp Bounty (13-14 Geo. V, c. 50); Inland Water Freight Rates (208); Precious Metals Marking (84) (18-19 Geo. V, c. 46); (19-20 Geo. V, c. 53); Statistics (190); Weights and Measures Inspection (212); Act to place Canadian Coal used in the Manufacture of Iron or Steel on a Basis of Equality with Imported Coal (20-21 Geo. V, c. 6).

Section 3.—Publications of Dominion Departments.

List of Principal Publications of the Departments of the Government of the Dominion of Canada as Compiled from Information Supplied by the respective Departments.

Agriculture.—Annual Reports of the Minister, of the Experimental Farms and Stations, of the Veterinary Director-General and of the Entomological Branch. Bulletin pamphlets and circulars of the Experimental Farms Branch on a great variety of agricultural subjects, including publications of the following Divisions: Field Husbandry; Animal Husbandry; Horticulture; Cereal; Chemistry; Forage Plants; Botanical; Poultry; Tobacco; Economic Fibre; Bacteriology; Bees; and Illustration Stations. Bulletins of the Dairy

Cold Storage Branch relating to the dairying and cold storage industries in Canada, making of butter and cheese, dairying experiments, co-operation, etc. Reports, bulletins, pamphlets, etc., of the Live Stock Branch on cattle, sheep, swine, poultry, marketing eggs, wool, etc. Bulletins of the Health of Animals Branch, with regulations as to contagious abortion; rabies; sheep scab; actinomycosis; anthrax; glanders; hog cholera; malade coft; tuberculosis; foot-and-mouth disease; quarantine; and meat inspection. Bulletins reports of the Seed Branch as to seed-testing, the production and use of seed grains, Seed Control Act, the Feeding Stuffs Act and the Fertilizers Act. Bulletins and circulars of the Entomological Branch and instructions to importers of nursery stock. Reports of the Canadian Seed Growers' Association. Fodder and Pasture Plants, by George H. Ark, B.S.A., and M. Oscar Malte, Ph.D., 143 pages, 27 plates, price \$1. Bulletin on the Maple Sugar Industry.

Dominion Experimental Farms.—(1) Report of the Director (contains summary of reports of Divisions, Farms and Stations); (2) Animal Husbandry Division; (3) Bee Division; (4) Botanical Division; (5) Chemistry Division; (6) Field Husbandry Division; (7) Illustration Stations Division; (8) Poultry Division; (9) Tobacco Division; (10) Horticultural Division; (11) Cereal Division; (12) Forage Crops Division; (13) Economic Fibre Division and (14) Division of Bacteriology. *Experimental Farms and Stations Reports.*—Assiz, B.C.; Indian Head, Sask.; Nappan, N.S.; Charlottetown, P.E.I.; Invermere, B.C.; Ney, B.C.; Brandon, Man.; Morden, Man.; Cap Rouge, Que.; Scott, Sask.; Swift Current, Sask.; Kapuskasing, Ont.; La Ferme, Que.; Kentville, N.S.; Lennoxville, Que.; St. Anne de la Pocatière, Que.; Rosthern, Sask.; Lethbridge, Alta.; Lacombe, Alta.; Summerland, B.C.; Farnham, Que.; Fredericton, N.B. *Experimental Sub-Stations.*—Beaverlodge, Alta.; Vermilion, Alta.; Fort Resolution, N.W.T.; Salmon Arm, B.C.; Fort Providence, N.W.T.; Betsiamites, Que.; Fort Smith, N.W.T.

A pamphlet entitled "List of Publications" contains a list of the publications of the Department, numbering more than 400. These publications include, in addition to the reports, bulletins and pamphlets on field crops, live stock, dairying, orchard and garden insect and plant diseases, poultry and miscellaneous topics. With few exceptions, the publications of the Department are free on application to its Publications Branch.

Auditor General.—Annual Report.

Board of Railway Commissioners for Canada.—Annual Report. Pamphlet containing Judgments, Orders, Regulations and Rulings, issued fortnightly.

Civil Service Commission.—Annual Report, including lists of permanent appointments, promotions and transfers; Classification of the Civil Service of Canada, revised up to Dec. 1, 1920; Regulations of the Civil Service Commission; How Appointments are made in the Public Service; Examinations for Clerks, Stenographers and Typists; Examinations for Customs Service; Examinations for Postal Service; Examinations for Junior Trade Commissioners.

Dominion Fuel Board.—The Dominion Fuel Board was created in 1922 primarily to investigate a thorough study of the underlying causes of recurring fuel shortages in Canada and of the methods by which they may be counteracted. It is composed of officers of the Departments of Mines and of the Interior, and the co-operation of both Departments is given to the Board in its investigations. The following reports and publications have been issued: Interim Report of the Dominion Fuel Board, 1923; Central and District Heating, Possibilities of Application in Canada, by F. A. Combe, 1923; Coke as a Household Fuel in Central Canada, by J. L. Landt, 1925; Smoky River Coal Field, by James McEvoy, 1925; Why You Should Insulate Your Home, by G. D. Mallory, 1927; Dominion Fuel Board Second Progress Report, 1928; Humidity in House Heating, by E. S. Martindale, 1929; Orders bearing instructions on "How to Burn Coke".

Publications of Mines Branch, Department of Mines, in co-operation with Dominion Fuel Board.—Coking experiments on Coals from the Maritime Provinces, by B. F. Haanel and E. Gilmore, 1926; Tests of Various Fuels to Determine their Relative Heating Efficiency, by E. S. Malloch and C. E. Baltzer, 1927; Instructions for Burning Coal, Coke and Peat, 1927; Industrial Fuel and Power Statistics for Ontario, Calendar Year 1925, by E. S. Malloch and C. E. Baltzer, 1928.

External Affairs.—Annual Report, Annual Treaty Series.

Finance.—Annual Report on the Public Accounts of the Dominion of Canada. Monthly Statements of the Chartered Banks of Canada. Estimates.

Fisheries.—(Publications marked * are available in either English or French.) *Annual Report including Fish Culture Report. *Annual Statistical Report. Fish Culture Report (separately). A Popular Account of Some Canadian Fishes—A. Halkett. *Canada's Fisheries. Map of the Atlantic Coast Provinces showing fishing grounds. *The Herring Codfish Trade—J. J. Cowie; Statistics of the Haddock Fishery in North American

Waters—A. W. H. Needler. Statistics of the Cod Fishery—O. E. Sette. Fisheries Investigation into Hudson and James Bays in 1914—Melville, Lower and Comeau. *Reports on the Lobster Industry—Dr. A. P. Knight. Discolouration, Smut or Blackening of Canada Lobsters—Harrison and Hood. Historical Account of the Lobster Canning Industry—R. Williams. *Fish Canning in Canada. Reports by Professor E. E. Prince on (1) Harvesting and Planting of Trout; (2) Planting of Predaceous Fish; (3) Notes on the Habits and Life History of the Salmon. *Fish and Chip Shops. *Fisheries News Bulletin (monthly). Quarterly Bulletin of Sea Fisheries Statistics. *The Salmon Fishery of British Columbia. Monthly Report on Fish Market Conditions in Several Countries. Report on Fisheries Investigations in Hudson Bay, 1930. Summary of the Report by Messrs Cockfield, Brown and Co., Ltd., on the Marketing of Canadian Fish and Fish Products.

Various reports and bulletins of the Biological Board of Canada are also available for distribution by the Department of Fisheries.

Geographic Board of Canada.—18th Report, containing all decisions to Mar. 31, 1921; 19th Report, containing all decisions from April 1, 1924, to July 31, 1927, with supplementary numbers 1 to 12. "Place-Names of Alberta", 1928, 25c.; "Place-Names of Manitoba", 1928, 25c.; "Meaning of Canadian City Names", 1922; "Place-Names on Magdalen Islands, Quebec", 1922; "Place-Names of Prince Edward Island with Meanings", 1925, 25c.; "Place-Names in Thousand Islands, St. Lawrence River", 1910; "Place-Names on Anticosti Island, Quebec", 1922; Catalogue and Graphical Index of Maps in the Geographic Board Library, two volumes, 1922, Supplement 1925.

Indian Affairs.—Annual Report. Indian Act, R.S.C., 1927, Schedule of Indian Reserves, 1928. Indian Treaties and Surrenders, Vols. I, II, III. Census of Indians in Canada, 1929.

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Dominion Water Power and Hydrometric Bureau.—I. Combined Annual Report of the Dominion Water Power and Reclamation Service from 1923 to 1929. II. *Water Power:* Annual Reports of the Dominion Water Power Branch from 1913 to 1923 (the Annual Reports of the Branch previous to 1913 are included in the Annual Report of the Department). *Water Resources Papers.*—I. *Reports of Special or General Interest.*—2, Report on Bow River Power and Storage Investigations, by M. C. Hendry; 3, Report on Power and Storage Investigations, Winnipeg River, by J. T. Johnston; 5 and 11, Preliminary and Final Reports on the Pasquia Reclamation Project, by T. H. Dunn; 6, Report on Cost of Various Sources of Power for Pumping, in connection with the South Saskatchewan Water Supply Diversion Project, by H. E. M. Kensit; 7, Report on the Manitoba Water Powers, by D. L. McLean, S. S. Scovil and J. T. Johnston; 10, General Guide for Compilation of Water Power Reports of Dominion Water Power Branch, prepared by J. T. Johnston; 12, Report on Small Water Powers in Western Canada and discussion of Sources of Power for the Farm, by A. M. Beale; 13, Report on the Coquitlam-Buntzen Hydro-Electric Development, by G. R. G. Conway; 16, Water Powers of Canada, a series of five pamphlets prepared for distribution at the Panama-Pacific Exposition, 1915, by G. R. G. Conway, P. H. Mitchell, H. G. Acres, F. T. Kaelin and K. H. Smith; 17, Canadian Hydraulic Power Development and Electric Power in Canadian Industry, by C. H. Mitchell; 20, Report on the Interests dependent on Winnipeg River Power, with special reference to the capital invested and the labour employed, by H. E. M. Kensit; 27, 33 and 55, Directories of Central Electric Stations in Canada to May 1, 1928, by J. T. Johnston; 32, Water Resources Index Inventory, by J. T. Johnston; 56, Water Powers of Manitoba, by C. H. Attwood; 60, Water Powers of Canada, by J. T. Johnston. II. *Surface Water Supply Reports.*—(A) Atlantic Drainage south of St. Lawrence River, including Nova Scotia, New Brunswick, Prince Edward Island and Southeastern Quebec, 29, 37, 52 and 63, from 1919 to the climatic year ended Sept. 30, 1928; (B) St. Lawrence and Southern Hudson Bay Drainage in Quebec, 41, 48 and 58 from 1922 to climatic year ended

Sept. 30, 1927; (C) St. Lawrence and Southern Hudson Bay Drainage in Ontario, 28, 34, 35, 42, 49 and 58, from 1919 to the climatic year ended Sept. 30, 1927; (D) Arctic and Western Hudson Bay Drainage (and Mississippi Drainage in Canada) in Alberta, Saskatchewan, Manitoba, extreme Western Ontario, and Northwest Territories, 4, 19, 22, 24, 26, 31, 36, 40, 44, 46, 50, 54, 57, 62 and 66, from 1912 to the climatic year ended Sept. 30, 1929 (previous to 1919-20 surveys in Alberta and Saskatchewan were carried on and published by the Reclamation Service, Department of the Interior); (E) Pacific Drainage in British Columbia and the Yukon Territory, 1, 8, 14, 18, 21, 23, 25, 30, 35, 39, 43, 47, 51, 53, 59, 61 and 65, from 1911 to the climatic year ended Sept. 30, 1929. III. *Reclamation*.—Irrigation Reports, 1912 to 1918-19; Annual Reports of the Reclamation Service, 1919-20 to 1922-23; Reports of the Western Canada Irrigation Association (conventions (1st to 11th Conventions); Report of the International Irrigation Congress, 1914. *Bulletins*.—(1) Irrigation in Alberta and Saskatchewan; (2) Alfalfa Culture; (3) Climatic and Soil Conditions in C.P.Ry. Co. Irrigation Block; (4) Duty of Water Experiment and Farm Demonstration Work; (5) Farm Water Supply; (6) and (7) Irrigation Practice and Water Requirements for Crops in Alberta. *Acts*.—The Dominion Water Power Act; The Irrigation Act; The Lac Seul Conservation Act, 1928; The Reclamation Act; The Railway Belt Water Act.

Forest Service.—Annual Reports of the Director of Forestry for 1914-15-17-18-19-21-22-23-25-26-27-28-29-30-31. *Bulletins*.—(59) Canadian Woods for Structural Timbers; (61) Native Trees of Canada; (66) Utilization of Waste Sulphite Liquor; (69) The Care of the Woods (also published in French under the title *Entretien d'un Lot Boisé*); (71) Canadian Sitka Spruce, its Mechanical and Physical Properties; (74) Distillation of Hardwoods in Canada; (75) Wood-using Industries of Ontario—II; (78) Some Commercial Softwoods of British Columbia; (80) British Columbia Softwoods: their Decays and Natural Defects; (81) Identification of Woods commonly used in Canada; (83) Sawmill Waste and its Utilization in British Columbia. *Circulars*.—(13) The Cascara Tree in British Columbia; (16) Preservative Treatment of Fence-Posts; (22) Report of Tests of the Relative Strength of Green-cut and Fire-killed Western Cedar Pole Timber; (23) Absorption of Moisture by Kiln-dried Lumber; (24) Strength of Reinforced and Unreinforced Butter and Cheese Boxes; (25) List of Forest Service Publications; (26) Creosote Treatment of Douglas Fir; (27) Stain and Decay in Lumber-seasoning Yards; (28) Strength Tests of Creosoted Douglas Fir Beams; (29) Strength Tests of Creosoted Douglas Fir Railway Ties; (30) Rate of Growth and Density of the Wood of White Spruce; (31) Strength of Telephone Poles; Eastern Cedar, Red Pine and Jack Pine; (32) Change in Moisture Content of Kiln-dried Lumber when Shipped by Rail; (33) Effect of Moisture Content and Storage on the Heating Value of Sawdust; (34) Strength and Spike-retention Properties of Jack Pine Ties Affected with Red Stain and Red Rot; (35) Effects of Seasoning on the Buoyancy of Logs. *Tree Pamphlets*.—(1) White Pine; (2) White Spruce; (3) Douglas Fir; (4) Hemlock (Eastern); (5) Western Hemlock; (6) Red Pine; (7) Jack Pine; (8) Lodgepole Pine; (9) Balsam Fir; (10) Cedar (Eastern); (11) Western Cedar; (12) Sitka Spruce; (13) Western Yellow Pine; (14) Sugar Maple. (This series is also published in French under the following titles: (1) Le Pin Blanc; (2) L'Epinette Blanche; (3) Le Sapin de Douglas; (4) La Pruche; (5) Le Tsuga de l'Ouest; (6) Le Pin Rouge; (7) Le Pin Gris; (8) Le Pin de Murray; (9) Le Sapin Baumier; (10) Le Thuya (Cèdre de l'Est); (11) Le Thuya Géant; (12) L'Epinette de Sitka; (13) Le Pin à Bois Lourds.) *Forestry Topics*.—(2) Forest Fire Protection in Canada; (3) Silviculture in Canada; (4) The Need of a definite Forestry Policy; (6) The Christmas Tree Trade in Canada (also obtainable in French under the title *Le Commerce des Arbres de Noël au Canada*). *Stories and Plays for Children*.—Talking Trees; Betty in Dreamland; The Woodland Fairy (also obtainable in French under the title *La Fée des Bois*). *Special Publications*.—Forestry Lessons (also obtainable in French under the title of *L'Arbre et la Forêt*). Dominion Forest Service Message Code. The Forests of Canada. Form-class Volume Tables. Papers presented before the Third British Empire Forestry Conference (held in Australia and New Zealand, 1928)—Tree Planting in the Prairie Provinces of Canada; Timber Testing in Canada; Timber Pathology in relation to Wood Utilization in Canada; Wood Preservation in Canada; Forest Fire Protection in Canada; Progress since 1923; Pulp and Paper Research in Canada; Timber Physics Research in Canada; Silvicultural Research in Canada; State Forests in Canada; Softwood Resources of Canada. Blue Stain: a Cause of Serious Loss to Manufacturers of White Pine Lumber in Canada.

Geodetic Survey Branch.—Publication No. 2, Adjustment of Geodetic Triangulation in the Provinces of Ontario and Quebec; No. 3, Determination of the Lengths of Invar Base Line Tapes from Standard Nickel Bar No. 10239; No. 5, Field instructions to Geodetic Engineers in charge of Direction Measurement on Primary Triangulation; Instructions to Lightkeepers; Use of Electric Signal Lamps being an Appendix (No. 4) to Publication No. 5; No. 7, Geodetic Position-Evaluation; No. 8, Field Instructions for Precise Levelling; No. 10, Instructions for Building Triangulation Towers; No. 11, Geodesy; No. 12, Mathematical Statistics of the Geodetic Survey of London, Ont. (Distributed at London, Ont.); No. 14, Levelling. Co-ordination of Elevations of Bench Marks in the City of Calgary, Alberta; No. 15, Levelling. Bench Marks Established along Meridians, Base Line and Township Outlines in Saskatchewan; No. 16, Levelling. Precise Levelling in Nova Scotia, New Brunswick and Prince Edward Island; No. 17, Levelling. Precise Levelling

Quebec South of St. Lawrence River; No. 18, Levelling. Precise Levelling in Quebec North of St. Lawrence River; No. 19, Levelling. Precise Levelling in Ontario South of Parry Sound; No. 20, Levelling. Precise Levelling in Ontario North of Parry Sound; No. 21, Levelling. Precise Levelling in Manitoba; No. 22, Levelling. Precise Levelling in Saskatchewan; No. 23, Levelling. Precise Levelling in Alberta; No. 24, Levelling. Precise Levelling in British Columbia; No. 25, The Conversion of Latitudes and Departures in Traverse to Geodetic Differences of Latitude and Longitude; No. 26, The Simultaneous Adjustment of Precise Traverses and Triangulation Nets; No. 27, The Differential Adjustment of Observations; No. 28, Adjustment of Precise Level Net of Canada, 1928; No. 30, Triangulation in New Brunswick and Nova Scotia; No. 35, Triangulation Closure in the Maritime Provinces; No. 31, Triangulation in Quebec and New Brunswick; No. 32, Triangulation in New Brunswick and Prince Edward Island; No. 33, Triangulation in Cape Breton Island and Newfoundland; No. 34, Triangulation of the St. Lawrence River; No. 36, Deflection of the Plumb Line in Canada; No. 38, Precise Levelling on Vancouver Island; Report of the Operations of the Geodetic Survey of Canada, April, 1912, to March, 1922, prepared by the Director for the First General Assembly of the International Geodetic and Geophysical Union held at Rome, 1922. (Bound with the Reports of the Section of Geodesy of the International Geodetic and Geophysical Union, 1922.); Report of the Operations of the Geodetic Survey of Canada, April, 1922, to March, 1924, prepared by the Director for the Second General Assembly of the International Geodetic and Geophysical Union held at Madrid, 1924; Report of the Operations of the Geodetic Survey of Canada, April, 1924, to December, 1926, prepared by the Director for the Third General Assembly of the International Geodetic and Geophysical Union held at Prague, 1927; Geodetic Operations of Canada—January 1, 1927, to December 31, 1929. Reports of the Section of Geodesy—of the International Geodetic and Geophysical Union, Fourth General Conference, Stockholm, 1930; Annual Reports of the Superintendent of the Geodetic Survey of Canada for the fiscal years ended March 31, 1918 and 1922. Annual Reports of the Director of the Geodetic Survey of Canada for the fiscal years ended March 31, 1923-31.

National Development Bureau.—Maps: Railway Maps of Canada, in four-sheet form, scale 35 miles to the inch (\$1); one-sheet form, scale 60 miles to the inch, mounted (50 cents) and unmounted (25 cents); also 100 miles to the inch; Physical Map of Canada, scale 60 miles to the inch, mounted (50 cents) and unmounted (25 cents); Resource Map of Canada, scales 230 and 100 miles to the inch; also 60 miles to the inch, mounted (50 cents) and unmounted (25 cents); Sectional Road Map of Canada and the United States, in four sheets, scales 30 and 35 miles to the inch; Road Map of Canada and the United States, scale 100 miles to the inch; Vegetation and Forest Cover Map of Canada, scale 100 miles to the inch; Trade Routes Map of the World, on Mercator's projection; Carte Internationale du Monde, scale 1,000,000, Sheet N.L. 18 (Montreal); Map of Central Canada, indicating transportation and commercial development, scale 50 miles to the inch; Map of Manitoba and part of Saskatchewan, indicating transportation and commercial development, scale 33½ miles to the inch; Map of the Yukon Territory, scale 16 miles to the inch—Map of the Klauane, Kluane and Alsek Rivers District (Yukon District), scale 6-32 miles to the inch; Provincial Resources Maps, scales from 25 to 75 miles to the inch; Map of Alberta, scale 12½ miles to the inch, two-sheet form; Map of British Columbia, scale 35 miles to the inch; Map of Central Part of the Rocky Mountains, scale 4 miles to the inch; Map of the Rocky Mountains and Selkirk Mountains, scale 1-97 miles to the inch; Map of Manitoba, scale 12½ miles to the inch, in two-sheet form; Map of New Brunswick, indicating natural resources, scale 16 miles to the inch; Map of Nova Scotia, scale 10 miles to the inch; Map of Ontario, scale 35 miles to the inch; Map of Quebec and the Maritime Provinces, scale 35 miles to the inch; Map of Saskatchewan, scale 12½ miles to the inch; Motor Roads and Recreational Resources Maps of New Brunswick, Prince Edward Island and Nova Scotia, scales 7-89, 10 and 35 miles to the inch respectively. *Standard Geographical Maps*, scales 7-89 and 3-95 miles to the inch, entitled: Bonaventure, Belleville, Blanc-Sablon, Baskatong, Chiboumou, Cape Breton, Cornwall, Cartier, Calgary, English River, French River, Gaspé, Gatineau, Gowganda, Guelph, Harricaniaw, Halifax, Hamilton, Hearst, Jasper, Kingston, Kootenay, Lake Nipigon, La Tuque, London, Mattagami, Montreal-Quebec, Montmagny, Montreal, Mont Laurier, Moncton, Mégantic, Manitoulin, Nipissing, New Brunswick, Ottawa, Okanagan, Prince Edward Island, Pembroke, Parry Sound, Pontiac, Quebec, Rainy River, Roberval, Rivière du Loup, Sault Ste. Marie, Sudbury, Sherbrooke, Tadoussac, Truro, Timiskaming, Toronto, Vancouver, Victoria, Windsor, Yarmouth. *Reports and Pamphlets.*—Monographs of the leading fur-bearing animals: the Muskrat, a Canadian Fur Resource (French and English Editions); The Preparation of Pelts for the Market (English and French Editions); Catalogue of Publications; Lists of Lantern Slide Lectures on the Natural and Recreational Resources of Canada; Peace River Country (French and English Editions); Nova Scotia, Its Development and Opportunities; New Brunswick, Its Natural Resources and Development; Lists of Unoccupied Farms for Sale in Saskatchewan and Alberta; Natural Resources of Quebec; Lists of Unoccupied Farms for Sale in New Brunswick; Fishing in Canada; Camping in Canada; Hunting in Canada; Winter in Canada; Vacations in Canada; How to Enter Canada; Animated Atlas of Canada; Canoe Trips to Hudson Bay; Monographs of various Canoe Trips; The Hudson Bay Region; New Brunswick Folder; Prince Edward Island, Its

Resources and Opportunities; "Canada" folder (English and French Editions); Commercial Facts: Why You should Insulate Your Home (English and French Editions); Humidity in House Heating (English and French Editions); The Maritime Provinces, Canada; Manitoba, Its Development and Opportunities; Canada—Recreational Folder; Canoe Trips in Ontario; Canoe Trips in Quebec; Canoe Trips in the Maritime Provinces; Canoe Trips in Western Canada.

National Parks of Canada.—Annual Report of the Commissioner; Banff, Kootenay, Yoho National Parks; Elk Island National Park; Jasper Trails; Kicking Horse Trail; Kootenay National Park and the Banff-Windermere Highway; Motor Information; Mileage Card; Prince Albert National Park; Riding Mountain National Park; Riding Mountain Circle Tour; Saddle Pony Livery Tariff for Banff National Park; Saddle Pony Livery Tariff for Jasper National Park; Saddle Pony Livery Tariff for Waterton National Park; Saddle Pony Livery Tariff for Yoho National Park; Through the Heart of the Rockies and Selkirk; Waterton Lakes Park; Pocket Guide to Waterton Lakes Park; Succession of Fossil Faunas in Jasper Park—Kindle; Sedimentation in a Glacial Lake—Kindle. *Historic.*—Guide to Fort Anne; Guide to Fort Chambly; Guide du Fort Chambly; Guide to Fort Lennox; Guide du Fort Lennox; Guide to Fort Wellington; Story of Alexander Mackenzie's Rock. *Migratory Birds.*—Migratory Birds Convention Act; Regulations; Attracting Birds with Food and Water; Lessons on Bird Protection; Instructions for Hunters; Loi et Règlements concernant les Oiseaux Migrateurs; Maisons d'Oiseaux pour leurs occupants; Leçons concernant la protection des Oiseaux; L'Art d'attirer les Oiseaux. Les Oiseaux Tresor National; Conseils aux Chasseurs. *Maps.*—Banff National Park; Banff and Vicinity; Banff Township: Northern Part of Banff Park (Mistaya Sheet); Banff National Park; Glacier National Park; Central Part of Jasper Park; Jasper Town; Kootenay National Park; Mount Revelstoke National Park; Prince Albert National Park; Riding Mountain National Park; Waterton Lakes National Park; Yoho National Park. *Acts.*—The National Parks Act, Chapter 33, 20-21 George V; The Migratory Birds Convention Act (130).

Topographical Survey.—Maps of the National Topographic series. Price 50 cents in folder form or on linen-backed paper, 25 cents on plain paper. Maps issued as follows: Maps on a scale of 1 mile to 1 inch; the New Glasgow, Comeau Hill, Wolfville and Yarmouth maps in Nova Scotia, the Sussex and Fredericton maps in New Brunswick; the Shawinigan and Grondines maps in Quebec; the Calgary Northeast, Calgary Southwest, Calgary Northwest, Calgary Southwest and Lake Louise maps in Alberta; and the Kamloops map in British Columbia. Maps on a scale of 2 miles to 1 inch; the Port Mouton, St. Mary Bay maps in Nova Scotia; the Rouyn Lake, Petawaga, Kempt Lake and Beauport maps in Quebec; the Rouyn-Larder Lake map partly in Quebec and partly in Ontario; the Muskoka, Parry Sound, Byng Inlet and Hudson maps in Ontario; the Mistaya map partly in Alberta and partly in British Columbia; and the Kamloops Lake and Merrimack maps in British Columbia. Maps on a scale of 4 miles to 1 inch; the Armstrong, Quiet Ignace, Sioux Lookout, Lake St. Joseph, Rainy Lake, Dryden, Lac Seul, Trout Lake and Rainy River maps in Ontario; the Kenora, Pointe du Bois, Carroll Lake, Deer Lake and Island Lake maps partly in Ontario and partly in Manitoba; the Oxford House, Winnipeg, Selkirk, Hecla, Berens River, Norway House, Cross Lake, Sipiwash, Waterhen Lake, Grand Rapids and Wekusko Lake maps in Manitoba; The Pas, Cormorant Lake, Kississing maps partly in Manitoba and partly in Saskatchewan; the Pelican Narrows and Lac la Ronge maps in Saskatchewan; the Chipewyan, Fitzgerald, Lake Claire, Peace Point maps in Alberta; and the Prophet River and Halfway River maps in British Columbia. On a scale of 8 miles to 1 inch; the Lake Winnipeg map in Manitoba and Hudson Hope map in northern British Columbia. *Sectional Maps of Western Canada.*—Series, prices 10 and 15 cents for thin and heavy paper respectively; Sectional maps, series, showing greater topographical detail, such as roads, buildings, contours, etc., price 25 cents; sectional maps covering same areas, on smaller scale, in black and white, price 5 cents; intermediate series, showing road information, price 10 cents; new series, price 15 cents. Indexes to these maps will be furnished on application. *Group Maps.*—Yukon Territory.—Prices 10 and 15 cents for thin and heavy paper respectively. *Map of Canadian National Parks and Forest Reserves.*—As follows: Central part of Jasper Park (6 sheets); Central part of Jasper Park (1 sheet); Crownstest Forest and Waterton Lakes Park (5 sheets); Waterton Lakes Park (1 sheet); Rocky Mountains Park; Yoho National Park; Glacier Park; Revelstoke Park; Kootenay Park; Buffalo Park; Prince Albert Park; Wood Buffalo Park (south of Great Slave Lake). Price of the above maps 15 cents per copy or per sheet. The central part of Jasper Park (1 sheet), the Waterton Lakes Park, the Yoho Park and the Prince Albert and Wood Buffalo Park maps are available in folder form at 25 cents each. Vicinity of Lake Louise, price 10 cents; Cypress Hills Forest Reserve, price 25 cents; Banff and vicinity, price 25 cents. *International Map of the World.*—The Regina sheet, number N.M. 13, scale 1: 1,000,000. *Maps of the Alberta-British Columbia Boundary.*—Parts I, II and III price of report and atlas, each part \$6. The separate maps may be obtained at a cost of 25 cents each. *Map of the Ontario-Manitoba Boundary.*—Price of report and atlas unbound \$3, report and atlas bound, \$4.75. *Land Classification and Soil Maps.*—Land classification and soil maps 1

en issued or the following districts, the price of the two maps for each district being cents: District north and east of Preeceville; District south of Melfort; District northeast of Prince Albert; Turtleford District; Onion Lake, Sask.; District east of Vegreville, Athabaska District; Sylvan Lake District; Lac La Biche District. The following districts have been covered by the land classification maps only, price 15 cents per copy: District adjacent to Lakes Winnipegosis and Manitoba; St. Paul de Mètis District; Whitecourt District; Part of the Peace River District; Peace River Block. The following districts have been covered by the soil maps only, price 15 cents per copy: Mid Lake District; Pouce Coupé District; Fort St. John District. *Township Development Plans*.—Township development plans showing detailed land classification and soil information for each separate township for the Vegreville, Vermilion and Preeceville Districts, price 15 cents per copy. *Maps of Northern Canada*.—Price 25 cents as follows: Northwestern Canada, scale 50 miles to 1 inch; also the following maps on a scale of 4 and 6 miles to 1 inch; Great Slave Lake (eastern sheet); Great Slave Lake (western sheet); Lockhart River basin; The Pas mineral area; Reindeer Lake area; Fond du Lac River basin; Fort Smith to Resolution; Providence to Simpson; Simpson to Wrigley; Wrigley to Norman; Norman to Hume River; Hume River to Thunder River; Thunder River to McPherson and Slave River; Mackenzie River delta and Mackenzie bay; Vermilion to Little Rapids; McMurray to Lake Athabaska; Lake Athabaska; Churchill Harbour and vicinity, Provisional Edition, scale 2,000 feet to 1 inch. East end of Great Bear Lake, scale 2 miles (special advance edition), general map of Great Bear Lake and District as far west as Norman, scale 8 miles to 1 inch. These last two maps are also available on linen-backed paper at a price of 50 cents each. *Magnetic Maps*.—Lines of equal magnetic dip and annual change in Canada for 1927, price 5 cents; Lines of equal magnetic declination and annual change in Canada for 1932, price 10 cents (in course of preparation). Lines of equal horizontal intensity and annual change in Canada for 1932, price 10 cents (in course of preparation). *Miscellaneous Maps*.—The Red Lake District, 50 cents in folder form, 25 cents in sheet form; Aeronautical map Winnipeg District, price 50 cents in folder form, 25 cents in sheet form; The Ottawa sheet and the Kingston sheet of the map of the Ottawa-Kingston District, scale 2 miles to 1 inch. Price 50 cents in folder form, 25 cents on plain paper for each sheet; the Atlantic Ocean between Canada and Northern Europe, showing transatlantic steamship routes; Orographical map of the Dominion of Canada and Newfoundland, scale 5 miles to 1 inch, price 15 cents; nomogram showing duration of sunlight for every day of the year for all places in the world, price 10 cents; average date, start and end of flying season for float and boat planes; map of the Ottawa-Gatineau District, scale 1 mile to 1 inch, price 25 cents on plain paper, 50 cents in folder form or on linen-backed paper; the following navigation maps, price 25 cents: Winnipeg to Regina; Regina to Lethbridge; Lethbridge to Calgary and Calgary to Edmonton; Churchill River. *Miscellaneous maps* showing contours as follows: Topographic map of the Rocky Mountains (in 21 sheets), only fifteen sheets now in print, per sheet 15 cents; map of Alberta showing elevations, north, centre and south sheets, per sheet 25 cents; other miscellaneous maps as follows: Preliminary topographic map of a portion of the foothills region, price 50 cents; Yukon map (in 10 sheets), price per sheet 25 cents; Mount Robson and mountains of the continental divide north of Yellowhead Pass, price 15 cents; Reconnaissance map of the northern Kirk Mountains and the Big Bend of the Columbia River. *Plans*.—Township plans, price 10 cents; plans of townsites, settlements and parishes, price 25 cents to \$1. *Reports, Pamphlets, Bulletins, etc.*—Annual reports of the survey, price 10 cents; Manual of Instructions for the survey of Dominion Lands, price 75 cents; supplement to the above Manual, price 50 cents; Astronomical field tables showing altitude and azimuth of the pole star; planation of the above field tables; Rules and Regulations of the Board of Examiners of Dominion Land Surveyors. *Technical Reports and Pamphlets*.—Photographic methods employed by the Canadian Topographical Survey by A. O. Wheeler, F.R.G.S.; Photographic Surveying by M. P. Bridgland, D. L. S., price 15 cents; Papers on descriptions of deeds, price 15 cents; Description of boundary monuments erected on surveys of Dominion Lands 1871-1917, by H. L. Seymour, D.L.S.; Precise measuring with invar wires and the measurement of Kootenay Base, by P. A. Carson, D.L.S.; the copying camera used by the Surveyor General's Office; Triangulation of the Railway Belt of British Columbia between Kootenay and Salmon Arm Bases; Description, adjustments and methods of use of the six-inch micrometer block survey reiterating transit theodolite, by W. H. Hertrich, B.Sc.; Bench marks established along certain meridians base lines and township lines in Alberta, by J. N. Wallace, D.L.S., price 25 cents; Elevation of lakes in Manitoba, Saskatchewan and Alberta, by J. N. Wallace, D.L.S., price 10 cents; Magnetic results in Western Canada with four isomagnetic maps; Tests of small telescopes at the laboratory of the Dominion Lands Surveys; the testing of timepieces at the laboratory of the Dominion Lands Surveys, 1919; Standardization of measures of length at the laboratory of the Dominion Lands Surveys; the adjustment and testing of transit theodolites, levels and surveying cameras at the laboratory of the Dominion Lands Surveys; Testing of thermometers at the Physical Testing Laboratory; How to read Topographic maps, price 10 cents; The march of the compass in Canada and daily variation tables, price 10 cents; A study of the Dominion standard yard and other standards of length, bulletin No. 60. Aneroid barometer and altimeter, bulletin No. 63, price 10 cents; sun diagrams for aerial photographic light (provisional edition), price 10 cents; examples of descriptions

by F. H. Peters, Surveyor General of Dominion Lands and Chairman of the Board of Examiners for Dominion Land Surveyors; the use of aerial photographs for mapping, bulletin No. 62, price 25 cents. *Reports on Descriptions of Townships.*—Description of the townships of the Northwest Territories, between the Third and Fourth Meridians, price 1 cent; description of townships of the Northwest Territories west of the Fourth and Fifth Meridians, price 10 cents; description of surveyed lands in the Railway Belt of British Columbia (3 parts, Eastern, Central and Coast Divisions), price of each 10 cents; extracts from reports on townships east of the Principal Meridian, received from surveyors to July 1, 1914, price 10 cents; extracts from reports on townships 1 to 16 west of the Principal Meridian, received from surveyors to July 1, 1914, price 10 cents; extracts from reports on townships 17 to 32, west of the Principal Meridian, received from surveyors to July 1, 1914, price 10 cents; extracts from reports on townships 33 to 88 west of the Principal Meridian, received from surveyors to Mar. 31, 1915, price 10 cents; extracts from reports on townships 1 to 16 west of the Second Meridian received from surveyors to Mar. 31, 1915, price 10 cents; descriptions of surveyed townships in the Peace River District, in the provinces of Alberta and British Columbia, price 10 cents; description of the lands comprised within Fort Pitt sectional map, price 10 cents; description of the townships surveyed in the different provinces, issued from 1909 to 1918. *Miscellaneous Reports.*—The Selkirk Range (2 vols., price for the two volumes \$1.; Report of the Alberta-British Columbia boundary, Part I, from International Boundary to Kicking Horse Pass, price for report and accompanying atlas \$6; Part II, covering from Kicking Horse Pass to Yellowhead Pass, price for report and accompanying atlas \$6; Part III, covering north of the Yellowhead Pass, price \$6. Description of and Guide to Jasper park, price 50 cents; Reprint of a report on an exploratory survey between Great Slave Lake and Hudson Bay, with maps, by J. W. Tyrrell, D.L.S., 1901, price 50 cents; Revised sheets of the sectional map of Canada; Classification of lakes in western Canada; Report of an exploratory trip in the area covered by Halfway River and Prophet River sheets of the National Topographic series, bulletin No. 61, price 10 cents; List of maps, plans and publications issued by the Topographical Survey of Canada. *Relief Maps or Models.*—As follows: Sectional sheets scale 3 miles to 1 inch. Dufferin No. 22, Emerson No. 23, Moosejaw No. 69, Brandon No. 72, Winnipeg No. 73, Blackfoot No. 115, Regina No. 119, Rosebud No. 165, Red Deer No. 215, Saskatoon No. 218, Peace Hills No. 265, Edmonton No. 315, Qu'Appelle No. 120, Yorkton No. 170. Special maps as follows: Montreal District, Toronto District, Three Rivers District, scale 1 mile, Cook District, Sherbrooke District, Ottawa District, Halifax District, Quebec District, Brampton District, scale 1 mile, and Brome District and Ottawa-Brockville, 2 mile scale. Edmonton District, scale 1 mile, Calgary District, scale 3 miles, Porcupine and Pasqua Forest Reserve and Bow River Forest Reserve, 3 miles, Porcupine and Pasqua Forest Reserve, 2 miles, Peace River District, 5 miles, Central portion Jasper Park, 1 mile, Waterton Lakes Park, 1 mile, Banff and vicinity, 1 mile, and Riding Mountain Forest Reserve, scale 40 chains to 1 inch, Regina, scale 15.78 miles to 1 inch, Rapids above Horseshoe Falls, Niagara River, scale 166.7 feet to 1 inch, and Canada, 60 miles to 1 inch. The following National Topographical series sheets, scale 1 mile to 1 inch: Winnipeg, N.S., New Glasgow, N.S., Sussex, N.B., Fredericton, N.B., Sorel, Que., Shawinigan, Que., Lake Louise, Alta.-B.C., Kamloops, B.C., Kamloops Lake, B.C., on a scale of miles to 1 inch. Price about eighteen dollars (\$18) each with exception of the large Canada, the Ottawa-Brockville, and the Bow River Forest Reserve maps, prices of which will be given on application. For the various maps and publications of the Topographic Survey of Canada, apply to the Director at Ottawa.

International Boundary Commission.—*Reports.*—Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada from the source of the St. Croix River to the St. Lawrence River, 1925, with accompanying Triangulation and Precise Traverse Sketches, \$5; Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada from the Western Terminus of the Boundary along the 49th Parallel, on the west side of Point Roberts, through George's Haro and Juan de Fuca Straits, to the Pacific Ocean, 1921, with accompanying Charts, \$5; Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada along the 141st Meridian from the Arctic Ocean to Mount St. Elias, 1918, \$5; Report of the International Waterways Commission upon the International Boundary between the Dominion of Canada and the United States, through the River St. Lawrence and the Great Lakes, 1915, with full set of 30 maps, \$7.50; Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada from the Northwesternmost Point of Lake of the Woods to Lake Superior, \$5. *Maps.*—From the source of the St. Croix River to the Atlantic Ocean, 18 sheets except sheet No. 13, various scales 26 by 38 inches, 50c. each; from the St. Lawrence River to the source of the St. Croix River, 61 sheets and index sheet, various scales, 26 by 38 inches, 50c. each; from the St. Lawrence River at St. Regis to the head of Pigeon Bay in Lake Superior, 29 sheets and index sheet, International Waterways Commission, various scales 29½ by 36 inches, 25c. each; Northwesternmost Point of Lake of the Woods to the head of Pigeon Bay in Lake Superior, 36 sheets and index sheet, various scales, 26 by 38 inches, 50c. each; 49th Parallel, Northwesternmost Point of the Lake of the Woods to Point Roberts, 59 sheets, index and profile sheets, scale 1:62,500, size 15 by 30 inches, sheets 1 to 19, 50c. each, sheets 20 to 3

each; west side of Point Roberts through Georgia, Haro and Juan de Fuca Straits to the Pacific Ocean, 1 sheet, scale 1:200,000, 28 by 41 inches, 50c.; Cape Muzon to Mount Elias, 13 sheets 25 by 29 inches, scale 1:250,000, sheets 1 and 2 not yet published, 50c.; Preliminary Map—Head of Portland Canal to Stikine River, scale 1:250,000, 24 by 19 inches, 25c. each; 141st Meridian from the Arctic Ocean to Mount St. Elias, 30 sheets, scale 1:62,500 with profile sheets, index sheet and special Arctic Coast sheet, size 18 by 11 inches, 25c. each; Mount St. Elias to White River sheet, scale 1:250,000, size 19 by 11 inches, 25c.

These reports or maps may be obtained on application to the International Boundary Commission, Department of the Interior, Ottawa. Cheques should be made payable to the Receiver General of Canada.

Justice.—Annual Report of the Superintendent of Penitentiaries.

King's Printer and Controller of Stationery.—The *Canada Gazette*, published weekly, with occasional supplements and extras; subscription in Canada and United States, per annum payable in advance, single copies 20c. each, other countries \$10 per annum and per single copy. Judgments of the Board of Railway Commissioners, semi-monthly, per annum, single copies, 20c. Canada Law Reports, published monthly, yearly subscriptions, \$6. Revised Statutes of Canada, 1927 (5 vols.), \$10. Annual Statutes, 1928, 1929, \$5, 1930, \$5, 1931, \$5. Acts, Public and Private, with amendments to date, 10c. per copy. Canadian Postal Guide, \$1 paper cover, \$1.50 cloth cover; including supplements, additional 25c. Parliamentary Debates, "Hansard", issued daily during session, French and English, \$3 per session each for House of Commons and Senate Debates; single copies, 5c. Prices of bluebooks are in nearly every case printed upon the front cover and based practically on cost. They may be ordered direct from the King's Printer, Ottawa. Catalogue of official publications of the Parliament and Government of Canada is issued annually and a copy may be obtained free of charge from the King's Printer, Ottawa.

Labour.—*Monthly.*—The *Labour Gazette* (published in English and French) at a subscription price of 20c. per annum. *Annually.*—Report of the Department of Labour (including Reports of Proceedings under the Industrial Disputes Investigation Act, Conciliation and Labour Act, Employment Offices Co-ordination Act, Technical Education Act, Government Annuities Act, Combines Investigation Act, and Old Age Pensions Act). Labour Disputes in Canada as existing on Dec. 31, 1928 (a supplementary report thereto on Labour Disputes is published annually in February or March). Labour Organization in Canada. Labor Unionization in Industry, Commerce and the Professions in Canada. Co-operative Associations in Canada. Wages and Hours of Labour in Canada. Prices in Canada and other Countries. Strikes and Lockouts in Canada and other Countries. *General Reports.*—Report of Royal Commission on Industrial Relations, bound with Report of Proceedings of the Discussions of National Industrial Conference, 1919. Hours of Labour in Canada and in other Countries, 1923. Report of Commission appointed under Order in Council (P.C. 1000), Sept. 22, 1923, to inquire into the Industrial Unrest among the Steel Workers at Sarnia, N.S. Report of Provincial Royal Commission on Coal-Mining Industry in Nova Scotia, January, 1926. Government Intervention in Labour Disputes in Canada. Judicial Proceedings respecting Constitutional Validity of the Industrial Disputes Investigation Act, 1907, and Amendments of 1910, 1918, 1920 and 1925. Legal Status of Women in Canada. Employment of Children and Young Persons in Canada. *Reports of Investigations under the Combines Investigation Act.*—(1) Investigation into Alleged Combine in the Distribution of Fruits and Vegetables in Western Canada, 1925; (2) Investigation into Alleged Combine amongst Coal Dealers at Winnipeg and other places in Western Canada, 1925; (3) Investigation into Alleged Combine limiting Competition in the Marketing of New Brunswick Potatoes, 1925; (4) Investigation into Alleged Combine in the Manufacture and Sale of Bread in the City of Montreal, 1926 (out of print); (5) Investigation into Alleged Combine in the Distribution of Fruits and Vegetables produced in Ontario, 1926; (6) Investigation by Registrar into the Proprietary Articles Trade Association, 1926; (7) Investigation by Commissioner into the Proprietary Articles Trade Association, 1927; (8) Reports of the Commissioner on the Amalgamated Builders' Council, 1929; (9) Report of Commissioner on the Electrical Estimators' Association, 1930; (10) Report of Registrar into alleged combine in the Bread-Baking Industry in Canada, 1931; Report of Commissioner on Alleged Combine in the Motion Picture Industry in Canada. *Bulletins in Industrial Relations Series.*—(1) Joint Councils in Industry; (2) Report of a Conference on Industrial Relations, 1921; (3) Joint Conference of the Building and Construction Industries in Canada; (4) Employees' Wages in Canada; (5) Canada and the International Labour Conference; (6) Canadian Railway Board of Adjustment, No. 1, Second Report; (7) National Conference Regarding Employment in Canada; (8) Canadian Railway Board of Adjustment, No. 1, Third Report; (9) Canadian Railway Board of Adjustment, No. 1, Fourth Report; (10) Government Intervention in Labour Disputes in Canada.

Marine.—Annual Report. List of Canadian Shipping. Reports of Expeditions to Hudson Bay, Northern Waters and Arctic Archipelago. Canadian Port Directory. List of Lights, etc., in Canada: (a) Pacific Coast; (b) Atlantic Coast; (c) Inland Waters. *Charts and Publications of the Canadian Hydrographic Service.*—Catalogue of Marine Charts, Sailing Directions, Tidal Information and other Canadian Government publications of interest to mariners (free). *Pilots.*—(price \$1 per copy payable in advance by order, express order or marked cheque, only) St. Lawrence Pilot (below Quebec),

comprising sailing directions from cap des Rosiers to Quebec, 5th edition, 1929. Supplement No. 1 to above (including St. Lawrence river from Quebec to Montreal), 1931. St. Lawrence Pilot (above Quebec), comprising sailing directions from Quebec harbour to False Ducks island and Stony point, lake Ontario, 2nd edition, 1920. Sailing directions for the Canadian shores of lake Ontario, 1921. Sailing directions for the Canadian shores of lake Huron and Georgian bay, 3rd edition, 1926. Sailing directions for the Canadian shores of lake Superior, 1st edition, 1922. Supplement No. 2 to the above, 1931. Sailing directions for lake Melville and approaches (Coast of Labrador), 1931. Sailing directions for The Hudson Bay route 1932, British Columbia Pilot Vol. I, southern portion of coast of British Columbia from Juan de Fuca strait to cape Caution including Vancouver I. and inner passages, 1st edition 1932 (in preparation). British Columbia Pilot, Vol. II, northern portion of the coast of British Columbia from cape Caution to Portland inlet and Queen Charlotte islands, 1st edition, 1930. Navigating charts. *Reports of the International Waterways Commission*.—On the regulation of lake Erie, 1910. On the International Boundary Line through the St. Lawrence river, Great Lakes and connecting waters, 1915. *Tide and Current Survey Reports*.—(issued free of charge)—Currents in the gulf of St. Lawrence including the Anticosti region, Cabot strait and Northumberland strait. Currents in the southeastern coasts of Newfoundland (out of print). Currents in Belle Isle strait (temporarily out of print). Currents in the entrance to the St. Lawrence estuary. Table of hourly directions and velocity of currents and time of slack water in the bay of Fundy. Tide levels and datum planes on the Pacific coast of Canada. Tide levels and datum planes in Eastern Canada; giving the levels in 86 harbours and other localities. Tides at the mouth of the bay of Fundy, with diagrams. Tidal investigations and results; Arctic tides, with map. Tides and tidal streams; a general description of the various types of tide and the behaviour of currents, with plates. Temperatures and densities of the waters of Eastern Canada, with maps. *Tide Tables*.—(issued free of charge) Tide tables for the Pacific coast of Canada: including Juan de Fuca strait, the strait of Georgia, and the northern coast with data for slack water in the navigable passes and narrows and information on currents. Tide Tables for the Atlantic coast of Canada, including the river and strait of St. Lawrence, the Atlantic coast, the bay of Fundy, Northumberland and Cabot strait and information on currents. Abridged edition for Quebec, Father point and the St. Lawrence river. Abridged edition for Saint John, N.B., and the bay of Fundy (with table of high water at Windsor, N.S.). Abridged edition for Halifax, N.S. and Sydney, N.S. Abridged edition for Charlottetown, P.E.I., Pictou, N.S., St. Paul I. with tidal differences for north shore of Prince Edward I., Sydney, Northumberland strait, Cape Breton, Nova Scotia, etc. Abridged edition for Vancouver, Sand Heads and the strait of Georgia, B.C. Abridged edition for Prince Rupert, B.C., with tidal differences for the northern coasts of British Columbia. Slack water tables for the strait of Canso and Great Egg Lake, N.S. Slack water tables for first Narrows, Vancouver harbour, Active point and Turn point, B.C. (mimeograph copies) of Tide tables for Churchill harbour, Hudson Bay, Nelson, Hudson bay and Moose River harbour, James bay.

Charts of the Canadian Hydrographic Service.—(Price 50 cents each.) Nearly four hundred charts and plans are published of the Atlantic coast and its harbours, Hudson bay, Hudson strait and harbours and anchorages, the St. Lawrence river, the Ottawa river, lake Ontario and harbours, lake Erie and harbours, lake Huron and Georgian bay and harbours, lake Superior and harbours, lake of the Woods, lake Winnipeg, Nelson river, Great Slave lake, Pacific coast and harbours. There is also a number of International Waterways Commission charts, not intended for navigation.

Radiotelegraph Branch.—Maps showing the Radiotelegraph and Radiotelephone stations in the Dominion of Canada. Postmaster-General's Handbook for Radiotelegraph Operators (Instructions re handling of traffic, etc.). Radiotelegraph Act and Regulations issued thereunder. Circular letter to Canadian Broadcast Listeners re Interference from the Regenerative Receiving Set. Official List of Radio Stations in Canada (price 25 cents).

Mines.—The scientific and investigatory work of the Department of Mines, which is chiefly concerned with the development of the Dominion's mineral industries, is carried by the Department's four principal branches—the Geological Survey, the Mines Branch, the National Museum of Canada and the Explosives Division.

The Geological Survey carries on areal and economic investigations and research work in geology and mineralogy; the Mines Branch carries on field, laboratory, and industrial investigations covering the various phases of the mining and metallurgical industries; the primary occurrence of the ores to the utilization of the finished products; the National Museum of Canada carries on scientific investigations in all branches of natural history and the Explosives Division, under the provisions of the Explosives Act (R.S.C., 1906, c. 62) has supervision of the manufacture, testing, storage and importation of explosives and issues the licences and permits authorized by the Act.

The Department of Mines publishes an annual administrative report covering the activities of the whole Department, and occasional pamphlets illustrating the services rendered the mining and metallurgical industries. Each of the branches publishes reports in addition to memoirs and bulletins on special investigations and districts.

The Geological Survey Branch.—From 1842 to 1904, published annual volumes. From 1904 to 1910, upwards of 80 reports were issued, all separately. Since then the publications have consisted of memoirs and bulletins appearing at irregular intervals, an annual summary

rt and miscellaneous publications, including geological and topographical maps, geological e books and handbooks. The subjects dealt with include areal and economic geology articular districts, mineralogy, palæontology and related topics. In 1926 the first me of a new Economic Geology Series was published, and further volumes of this s have since been issued. A list of the reports published by this branch may be ined on application to the Director, Geological Survey, Ottawa.

The National Museum of Canada has published a series of *Museum Bulletins* in many ches of natural history. A list of these may be obtained on application to the Director, ional Museum of Canada, Ottawa.

The Mines Branch, since its inception in 1908, has published annual summary reports rring the investigations of the Divisions of Mineral Resources, Ore Dressing and Metal- y, Fuels and Fuel Testing, Ceramic and Road Materials and Chemistry, also the opera- s of the Dominion Assay Office. More detailed and comprehensive reports have also ublished by this branch, dealing with the technology of most of the economic minerals anada. A list of the Mines Branch reports may be had on application to the Director, s Branch, Ottawa.

The Explosives Division has published annual reports since 1919 and a number of pam- ts on the proper care and handling of explosives. Copies may be obtained on application e Chief Inspector of Explosives, Department of Mines, Ottawa.

The publications of the Department of Mines cover all phases of mining from prelim- y explorations and surveys of unmapped territory through the mining, milling, smelting refining of the ores to the marketing and utilization of the finished product. Most ese reports and maps may be obtained free of charge by those interested on application e Deputy Minister of Mines, Ottawa, or to the Directors of the Branches concerned, se addresses are given above. Many of these reports may be had in French trans- ns.

National Defence.—Annual Report, Militia and Air Services; Annual Report, Naval ice; Report on Civil Aviation; List of Officers, Defence Forces of Canada, Naval, ary and Air Services; Canadian Navy List; General Orders, Militia and Air Services; ia Orders; Air Regulations.

National Research Council.—*Annual Reports.*—Reports of the National Research cil for the years 1917-18; 1918-19; 1919-20; 1920-21; 1921-22; 1922-23; 1923-24; 1924-25 (lish and French); 1925-26; 1926-27; 1927-28; 1928-29; 1929-30; 1930-31. *General Reports.* or Nos. 1 to 21 see p. 1042 of the 1927-28 Year Book. Nos. 3, 4, 6, 8, 9, 10, 12 and 15 ow out of print.) No. 22, An Experimental Study of Sieving, by J. B. Porter, Ph.D., 2. (Out of print); No. 23, The Storage of Apples in Air-cooled Warehouses in Nova ia, by S. G. Lipsett, Ph.D., covering investigation by Associate Committee on Fruit age; No. 24, The Drying of Wheat, covering an investigation by the Associate Com- ee on Grain Research. *Bulletins.*—(For titles of Nos. 1 to 12, see p. 1042 of the 1927-28 e Book. Nos. 3, 4, 6, 7, 11 and 12 are now out of print.) No. 13, Interim Report on ein Content as a Factor in Grading Wheat, prepared by the Associate Committee on n Research. No. 14, Report on Inquiry in Europe Regarding the Feasibility of Using ein Content as a Factor in Grading and Marketing Canadian Wheat, by R. Newton, D. No. 15, Review of Literature dealing with Health Hazards in Spray Painting ublished by the Associate Committee on Spray Painting. *Periodical:* Canadian Journal earch, published monthly.

National Revenue.—Annual Report, containing statements relative to Imports, orts, Excise and Income. Annual Report of Shipping. National Revenue Review uthly).

Pensions and National Health.—(1) Sanitation, "Sewage Treatment for Isolated es and Small Institutions where Municipal Sewage System is not available". (2) The adian Mother's Book; (3) How to Take Care of the Baby; (4) How to Take Care of Mother; (5) How to Take Care of the Children; (6) How to Take Care of the Father he Family; (7) Beginning a Home in Canada; (8) How to Build the Canadian House; ow to Make the Canadian Home; (10) How to Make Outpost Homes in Canada; ow to Avoid Accidents and Give First Aid; (12) Canadians Need Milk; (13) How ook in Canada; (14) How to Manage Housework in Canada; (15) How to Take Care ousehold Waste; (16) Household Cost Accounting in Canada; (17) Sanitation, "Water lies" (unabridged edition); (18) Sanitation, "Water Supplies" (homesteader's edition); Athlete's Foot; (20) General Circular of Information concerning Venereal Diseases; (21) reath Diseases—Wasserman Test; (22) Venereal Diseases—Microscopical Exam- n; (23) Venereal Diseases—Diagnosis and Treatment; (24) Information for Men—Syphilis onorrhœa; (25) Information for Young Women about Sex Hygiene; (26) Information rents—Teaching of Sexual Hygiene to Children; (27) Prevention of Blindness in es; (28) Periodic Medical Examinations; (29a) Goitre—Facts for the General Public; ow to Build Sound Teeth; (31) What You Should Know About Tuberculosis; (32) lplex and Vaccination; (33) Narcotism in Canada; (41) Keep the Family Well; (43) ets; (51) Be Prepared to Prevent Infantile Paralysis; (53) Maternal Care.

NOTE.—Publications 20, 21, 22, 23 and 28 are for the *Medical profession only.*)

Post Office.—Annual Report of the Postmaster General. Official Postal Regulations as to Rural Mail Delivery. Booklet of Postal Information.

Public Works.—Annual Report.

Railways and Canals.—Annual Report of the Department; Canals of Canada; Trent Canal System; Canal Rules and Regulations; Port Colborne Elevator Tariff Regulations.

Secretary of State.—Annual Report. The Arms of Canada.

Trade and Commerce.

NOTE.—Requests for those publications marked with an asterisk should be addressed to the King's Printer; the remaining publications may be obtained from the Department of Trade and Commerce.

*Annual Report of the Dept. of Trade and Commerce, 25c.; *Annual Report of the Board of Grain Commissioners for Canada, 10c.; *Annual Report of Electricity and 25c.; *Annual Report of Weights and Measures, 10c.; Annual Reports, Dominion Research Laboratory, 1928-29-30-31; *Canada-West Indies Conference, 1925, with tax Canada-British West Indies-Bermuda-British Guiana-British Honduras Trade Agreement (1925), \$1; Electrical Standards and their application to Trade and Commerce; *Licensed Elevators, etc., 50c.; Motion Pictures (Catalogue of), 25c.; Pan-Pacific Commerce Conference (1923), 10c.; Precious Metals Marking Act, Office Consolidation, 10c.

Publications of the Commercial Intelligence Service.—(NOTE.—Publications of the Commercial Intelligence Service are free to subscribers to the *Commercial Intelligence Journal*. Australia (General Trade Information); Advertising in China; Advertising in the Middle East; Assistance that can be given by Canadian Trade Commissioners; **Commercial Intelligence Journal*, weekly in English and French, containing Reports of Trade Commissioners and other commercial information. Annual subscription: In Canada, single copies, 5c.; outside Canada, \$3.50; single copies, 10c.; Australian Markets for Fish Products, 25c.; Chinese Markets for Canadian Products (1919), 25c.; Czechoslovakia as a Market for Canadian Products (1927), 25c.; Denmark as a market for Canadian Products (1926), 25c.; Empire Tariff Preferences on Canadian Goods (1930), 25c.; Foreign Markets for Canadian Certified Seed Potatoes (1930), 25c.; German War and its Relation to Canadian Trade (1914), 25c.; Greece as a Market (1931), 25c.; Indian Empire as a Market for Canadian Products (1922), 25c.; Lumber Markets of Japan (1926), 25c.; Yugoslavia as a Market (1930), 25c.; Markets of British Malaya (1929), 25c.; Markets of Central America, 25c.; Peru as a Market for Canadian Products (1929), 25c.; Report of Special Trade Commission to Great Britain, France and Italy, (England) (1916), 25c.; Republic of Chile: Its Economic Condition and Trading Opportunities (1925), 25c.; Russian Trade (1916), 25c.; South American Markets—Argentina, Chile, Paraguay and Uruguay (1929), 25c.; Switzerland as a Market (1929), 25c.; Sweden as a Market for Canadian Products (1927), 25c.; The Trade Exhibition Ship: Possibilities in Japan (1910), 10c.; Trade of the African Sub-Continent (1928), 25c.; Timber Import Trade of Australia (1917), 25c.; Trading Opportunities in Scandinavia (1922), 25c.; Trading with Brazil: Points for Exporters, 5c.; Trading with Colombia and Venezuela (1928), 25c.; Trade with Panama (1930), 5c.; Trading Possibilities of the Baltic States (1929), 25c.; Trade with the New Countries of South East Europe (1921), 35c.; Trade with South China (1925), 25c.; Trading with Spain (1920), 25c.; West Africa and its Opportunities for Canadian Trade (1921), 25c.; The French-Canadian Homespun Industry (French and English) (1910), 10c.; Trading with Germany: Points for Exporters, 5c.; Trading with Netherlands: Points for Exporters, 5c.; Points for Canadian Exporters to: Australia, 5c.; Belgium, 5c.; British Honduras, 5c.; British Isles, 5c.; British Malaya and Siam, 5c.; British West Indies, 5c.; China, 5c.; Colombia, 5c.; Cuba, 5c.; France, 5c.; Greece, 5c.; Haiti, 5c.; Hong Kong, 5c.; India and Ceylon, 5c.; Jamaica, 5c.; Japan, 5c.; Mexico, 5c.; Netherlands East Indies, 5c.; New Zealand, 5c.; South Africa, 5c.; Venezuela, 5c.; West Indies and British Guiana, 5c.; What the Canadian Exporter can do for the Trade Commissioner.

Dominion Bureau of Statistics.—For the publications of the Dominion Bureau of Statistics see pp. 1075 to 1083.

Section 4.—Publications of Provincial Governments.

PRINCE EDWARD ISLAND.

Journal of the Legislative Assembly. Statutes. General Index of Statutes of Prince Edward Island, 1869-1928. Royal Gazette. Annual Reports of the Provincial Auditor on Public Accounts and other Departments of Public Works and Highways, Education, Agriculture, Forestry, Hospital (for the Insane) and Provincial Infirmary, Vital Statistics and Public Health.

NOVA SCOTIA.

Royal Gazette. Statutes, Journal and Proceedings of the House of Assembly. Journal of Education. Manual of the Public Instruction Acts and Regulations of the Council of Public Instruction, 1921. Annual Reports on Public Accounts, Public Health—Vital Statistics, Statistics of Incorporated Towns and Municipalities, Education, Fire Marshal, Mines, Provincial Museum, Rural Telephones, Humane Institutions, Public Charities including reports of Hospitals and Sanatorium), Penal Institutions, Child Welfare, Temperance, Printing, Legislative Library, Public Utilities Board and Workmen's Compensation Board, Provincial Secretary, Department of Agriculture (including Factory Inspector), Department of Highways, Department of Lands and Forests, and the Power Commission. Special Report of Royal Commissioner on Apple Industry. Duncan Coal Commission.

NEW BRUNSWICK.

Royal Gazette. Statutes. Annual Reports of the Auditor-General, of the Board of Health, of the Department of Education and Agriculture (including Horticulture). Annual Reports on Public Works, Crown Lands, the Hospital for the Insane, the Factory Report, Report of the Jordan Memorial Tuberculosis Sanatorium at River Glade, Report of Women's Institutes, Report of the Workmen's Compensation Board, Report of Public Utilities Commission, Report of N.B. Hydro-Electric Power Commission.

QUEBEC.

NOTE.—The titles of publications available in the English language are printed in English.

Attorney General.—Annual List of Public Officers of the Province of Quebec.

Municipal Affairs.—Annual Report of the Minister of Municipal Affairs. List of Municipal Corporations (annual); List of School Municipalities, Schools and Teaching Staff (annual); Statistical Year Book; Education Statistics; Financial Statistics of School Corporations; Municipal Statistics (annual); Judicial Statistics (annual); Statistics of the Social Establishments (annual); Statistics of the Benevolent Institutions (annual).

Provincial Secretary.—Annual Report of the Secretary and Registrar; Annual Report of the Provincial Bureau of Health; The Official Gazette of Quebec, bilingual (weekly); the Statutes of the Province (annual); Revised Statutes of the Province (1925); Rapport de l'Archiviste (annual); Monuments commémoratifs de la province de Québec, P.-G. Roy; Report of the Director of Public Charities.

Treasury.—Annual Statement of Public Accounts; Annual Estimates; Annual Budget Speech; Annual Report on Insurance Companies; Annual Report on Mutual Benefit Associations; Annual Report on Trust Companies.

Bureau of Revenue.—Annual Report of the Quebec Liquor Commission; Annual Report on Motor Vehicles Registrations; Statistics of Automobile Accidents.

Lands and Forests.—Annual Report of the Minister; La Forêt, Fernow, 1905; Dictionnaire des Lacs et Rivières de la province de Québec, Eugène Rouillard, 1914; Circular No. 1, La Rouille vésiculaire du Pin blanc, G.-C. Piché; Nomenclature of the Geographical Names in the Province of Quebec, Quebec Geographical Commission; Dictionnaire des Lacs et Rivières; Annual Report of the Quebec Streams Commission; Notes on the Forests of Quebec, G.-C. Piché; Forêts et chutes d'eau de la province de Québec; Rapport du Service de Protection; Tableau des forces hydrauliques concédées de 1867 à 1923 (Supplément 1923 au 7 avril 1930); Forests and Waterfalls. Quebec Natural Resources.

Agriculture.—*Annual Reports.*—Department of Agriculture; Competition for Agricultural Merit; Dairymen's Association; Pomological Society; Society for Protection of Plants. Journal of Agriculture and Horticulture, illustrated, monthly. *Bulletins.*—(1) Plans for Cheese and Butter Factories; (15) Culture du blé d'Inde; (55) Poultry Raising in Towns and Villages; (63) La culture des arbres fruitiers; (40) How to plant your Fruit Trees; (43) Bean Culture; (44) Vegetable Culture; (45) List of Presidents and Secretaries of Agricultural Societies; (67) Insectes nuisibles aux animaux de la ferme; (69) Enemies of Gardens and Orchards; (72) Nos érablières; (73) Instructions to School Farmers; (78) Farm Gas Engines; (83) L'élevage des dindons; (84) L'élevage des oies et canards; (87) La culture des pommes de terre; (89) Tile drainage of Farm Lands; (90) Experiments with Grain Crops; (92) The Corn Borer; (95) Comptabilité Agricole; Farm Account Book; (96) La remise à fumier; (100) Soils Drainage; (101) La luzerne; (102) Les conserves; (103) Les mauvaises herbes; (104) Les engrais chimiques. *Circulars.*—(42) Sélection des trouvaux de volailles; (125) Guide des cercles de fermières; (65) Common weeds and their control; (66) Alfalfa growing in Quebec; (72) Loi des mauvaises herbes. *Miscellaneous.*—(97) Ventilation des étables; (108) Orientation de la culture maraîchère; (117, 118, 119) Plans de poulaillers; (136) Lois sur l'agriculture; (138) Lois-Conseil d'Agriculture; (159) Le rochère—Mangeons du fromage; (164) Dairy farming; (165) Status et règlements des coopératives; (184) Tableau des mauvaises herbes; (291) Cent poules par ferme; (293) Le Maple, Pride of Quebec.

Highways.—NOTE.—Publications marked (1) are Bi-lingual; (2) Separate French and English editions; (3) English only.

(1) Annual Report of the Minister of Highways; (2) An Act Respecting the Roads Department (1927); (2) Official Bulletin of the Roads Department (issued semi-monthly during the summer season and monthly during winter); (1) Official Highway and Tourist Map (1932); Tours in Quebec; (3) Laurentian Tours (32 pp. guide illustrated); (3) Montreal-Quebec (12 pp. illustrated); (3) The Eastern Townships (12 pp. illustrated); (3) Lake St. John and National Park (12 pp. illustrated); (3) The Old World at your Door; (3) The Gaspé Peninsula (de luxe booklet); (3) Quebec, the Good Roads Province; (3) Gaspé Peninsula (260 pp.—complete guide—illustrated); (2) Along Quebec Highway (900 pp.—illustrated—price \$2).

Mines Branch.—Esquisse Géologique et Minéraux utiles de la province de Québec (1927); Iron Ores of the Province of Quebec, by P. E. Dulieux (1915); Extracts from Reports on the District of Ungava, by T. C. Denis (1915); Report on the Copper Deposits of the Eastern Townships, by J. Austen Bancroft (1916); L'industrie de l'amiante dans la province de Québec (1917); Report on Gold Deposits of Lake Demontigny, by Ad. Maillriot (1912); Geological Sketch and Economic Minerals of the Province of Quebec (1924); Annual Reports on Mining Operations in the Province of Quebec.

Colonization, Game and Fisheries.—Annual Report of the Minister; Report on Repatriation; Fisherman's Paradise; The Laurentide National Park; Elevage du musqué; Fur Farming in the Province of Quebec, 1921; Le Guide du colon, 1931; Quebec Ready Reference, 1931.

Public Works and Labour.—Minister's Report; Workmen's Compensation Act; Annual Report of the Workmen's Compensation Commission; Statistics of Fire Loss in the Province.

Public Instruction.—Code scolaire (1927); School Law (1927); An Act respecting the Department of Education (1925); Regulations of the Catholic Committee (1930); Regulations of the Protestant Committee (1926); Memoranda of Instructions to Teachers for Intermediate and High Schools (1925); Annual Report; Financial Statement of the Superintendent of Public Instruction (annual); Mon premier livre (1st and 2nd parts) (1904) a fresh edition of which is printed every year; L'Enseignement primaire; Education Record; Yearly circulars containing Instructions to School Boards and School Inspectors; Course of English and French for English Catholic Schools (1926); Manual respecting the course of study in the Protestant Elementary Schools; List of authorized text books.

Legislative Council.—Agenda Paper of the Legislative Council; Votes and Proceedings of the Legislative Council; Journals of the Legislative Council; Rules and Regulations of the Legislative Council.

Legislative Assembly.—Agenda Paper of the Legislative Assembly; Votes and Proceedings of the Legislative Assembly; Journals of the Legislative Assembly; Session Papers, Departmental Reports and Returns to Orders and Addresses of the Legislative Assembly; Report of the Clerk of the Crown in Chancery on Elections (published after every general election); Report of the Librarian of the Legislature; Annotated Rules and Standing Orders of the Legislative Assembly of Quebec; Private Bills in the Legislative Assembly of Quebec (a manual containing the rules relative to); Government and Legislature; List of the Chairmen and Members of the Committees of the Legislative Assembly.

ONTARIO.

Agriculture.—*Annual Reports.*—Minister of Agriculture; Agricultural College and Experimental Farm; Agricultural and Experimental Union; Stallion Enrolment Board; Agricultural Statistics; Bee-keepers' Association; Fruit Growers' Association; Vegetable Growers' Association; Entomological Society; Agricultural Societies; Horticultural Societies; Women's Institutes; Annual Report of Ontario Veterinary College. *Bulletins.*—(335) The Strawberry; (336) Cheese and Buttermaking; (337) Parasites Injurious to Sheep; (338) Hints on Judging Live Stock, Poultry, Grains, Grasses and Roots; (339) Parasites Injurious to Swine; (341) Paints and Painting; (342) Fire Blight; (343) Nuts and Fruits; (344) Fruit Tree Diseases; (345) Fungus and Bacterial Diseases of Vegetables; (346) Hardy Alfalfa; (347) Hay and Pasture Crops; (348) Amateur Dramatics; (349) Grain Smuts; (350) Warble Fly; (352) Potatoes; (353) Rose Culture; (354) The Raspberry; (355) The Raspberry and Blackberry; (356) Insects attacking Fruit Trees; (357) The Working and Repair Grafting, including Budding; (358) The European Corn Borer; (359) Insects attacking Vegetables; (360) Farm Underdrainage; (361) Farm Water Supply and Sewage Disposal; (363) Parasites injurious to Poultry. (364) Manures and Fertilizers; (365) Horses; (For previous bulletins, see p. 1046 of the 1927-28 Year Book.) *Spectator* (without serial numbers).—Food for the Family. *Colonization Branch.*—Northern Ontario Ready Reference.

Attorney General.—Reports of Inspectors; Legal Officers; Registry Offices; Insurance; Division Courts. Annual Reports of Liquor Control Board and Commissioner of Provincial Police. Coroners' Act (hand book). Powers and Duties of Justices of the Peace (Ontario (hand book)).

Education.—Annual Report of the Minister of Education. School Acts. Regulations Courses of Study: (1) Public and Separate Schools; (2) Continuation Schools; (3) High Schools and Collegiate Institutes; Courses of Study and Examinations in Schools attended by French-speaking Pupils; School Cadet Corps; General Announcement of Summer courses; Text Book Regulations, including list of text books authorized and their prices; The list of school manuals with their prices; Summer Schools for Training of Teachers; English-French Training Schools; Syllabus of Normal School Courses and Regulations First and Second Class and Kindergarten-Primary Certificates; List of Teaching Days High, Continuation, Public and Separate Schools; Recommendations and Regulations Vocational Schools, etc.; Recommendations and Regulations for Agriculture and Household Science Departments; High School Entrance Examination Regulations; Announcement re the Carter Scholarships; The Penny Bank of Ontario; The School Attendance Act and the Recommendations and Regulations and the Part Time Courses; The Consolidation of Rural Schools; Suggestions for Teachers of Subnormal Children; Accommodation, Equipment and Grants for Auxiliary Training Classes; Literature Selections for Departmental Examinations; Regulations, Medical and Dental Inspection, Public and Separate Schools.

Game and Fisheries.—Annual Report, Department of Game and Fisheries; Ontario Game and Fisheries Laws; Summary of the Ontario Game and Fisheries Laws; Practical Observations on the Fox and Proven Treatments of Common Ailments; The Mink in Activity; Report of the Special Fish Committee, 1928-30; The Small-mouthed Black Bass and its Conservation; The Maskinonge and its Conservation.

Health.—*Legislation.*—(1) Public Health Act and Vaccination Act; (3) Venereal Disease Prevention Act; (4) Cemetery Act; (5) Silicosis Act; (6) Embalmers and Funeral Directors Act. *Regulations.*—(1) Communicable Diseases, Tuberculosis, Summer Resorts and Boats, Sewage Disposal in Summer Resorts, Control of Meat, Pure Drinking Water in Public Places, Burial and Transportation of the Dead; (2) Disinfection; (3) Venereal Disease; (4) Sanitary Control of Lumber and Mining Camps; (5) Undertakers; (6) Slaughterhouses, Abattoirs and Manure; (7) Swimming Pools; (8) Bottling of Non-Intoxicating Beverages; (9) Auxiliary Water Supplies for Fire Protection; (10) Workers in Compressed Air; (11) School Medical and Dental Inspection; (12) Silicosis; (13) Minimum Standards for Tourist Camps and Refreshment Booths; (14) Requirements for Approval of Waterworks and Sewerage Systems; (15) Plumbing (proposed); (16) Regulations respecting Embalmers and Funeral Directors. *Publications.*—(1) Annual Report; (2) Bulletin for Health Officers; (3) Directory of M.O.H.'s and Secretaries of Local Boards of Health; (4) Skeleton Form Annual Report of M.O.H.; (6) Health Almanac; (7) The Baby; (8) Suggestions for Feeding of School Age Children; (9) Resuscitation; (10) Country Home and Summer Cottage; (11) Rabies; (12) The Mouth; (13) Rural Sanitation (Bulletin No. 9); (14) Carbon Monoxide Poisoning. *Industrial Hygiene.*—(1) Occupational Diseases and Rapid Reference Manual; (4) Physical Examination in Industry; (5) What Physical Examination in Industry Does; (6) Industrial Hygiene and Human Conservation in Industry; (7) Development of Industrial Hygiene in Canada; (8) Lead Poisoning; (9) If This Were Your Child; (10) Studies in the Control and Treatment of Nickel Rash; (11) Silicosis; Its Relation to Tuberculosis; (13) A Case of Silicosis with Autopsy; (14) Uric Acid Determination in the Blood; (15) Ventilation in the Light of Modern Research; (17) Clothes and Colds; (18) Some Clinical Aspects of Industrial Poisoning; (19) Hazards for Spray Painting Machines. *New Series:* (1) A Study of the Atmospheric Conditions in Two Ontario Towns; (6) Treatment of Lead Poisoning; (7) Report on an Investigation to Determine the Hazard to the Health of Operators Using the Spraying Machine for Painting; (8) The Treatment of Lead Poisoning; (9) Hydrogen Sulphide Poisoning; (10) Chrome Poisoning; (11) Review of Literature Dealing with Health Hazards in Spray Painting (National Research Council of Canada); (13) Silicosis in Canada (International Silicosis Conference); (14) Carbon Monoxide Poisoning. *Leaflets re Communicable Diseases.*—(2) Diphtheria—(a) Prevention of Diphtheria; (3) Scarlet Fever; (4) Measles; (5) Smallpox; (6) Anterior Poliomyelitis; (7) Whooping Cough; (9) Venereal Disease—(a) General Facts, (b) Facts for Young Women, (c) Facts for Young Men; Cancer: (1) What Everyone Should Know About Cancer; (2) A Word to You About Cancer; (3) Important Facts for Women About Tumours; (4) The Prevention of Cancer; (5) Cancer of the Mouth; (6) The Doctor and the Cancer Patient.

Highways.—Annual Report: Annual Proceedings, Ontario Good Roads Associations; Report of the Ontario Highways Commission, 1914; (15) Highway Traffic Act, 1932; (16) General Specifications for Concrete Highway Bridges, 1920; (17) General Specifications for Steel Highway Bridges, 1923; (19) General Plans for Steel Highway Bridges, 1917; (20) Report on Street Improvement, 1917; (34) The Planting and Care of Roadside Trees,

1923; (35) Public Commercial Vehicles Act, 1931. Regulations Respecting Public Commercial Vehicles, 1931. Consolidated Highway Improvement Act, 1931. Official Government Road Maps of Ontario, price 25c.

Labour.—*Legislation.*—Department of Labour Act; Factory, Shop and Office Building Act; Steam Boiler Act; Canadian Interprovincial Regulations for the Construction and Inspection of Boilers, Tanks and Apparatuses; Operating Engineers Act and Regulations Governing the Issuance of Certificates; Employment Agencies Act and Regulations Governing Employment Agencies; Apprenticeship Act; General and Trade Regulations Governing the Employment of Apprentices in Ontario; Regulations Respecting the Protection of Persons Working in Compressed Air; Regulations Respecting the Protection of Persons Working in Tunnels or Open Caissons; Minimum Wage Act; Orders of the Minimum Wage Board. *Reports.*—Annual Report of the Department of Labour, including the reports of the General Superintendent of the Ontario Government Offices of the Employment Service of Canada, Chief Inspector of Factories, Chief Inspector of Steam Boilers, Chairman of the Board of Examiners of Operating Engineers, and of the Inspector of Apprentices. Annual Report of the Minimum Wage Board. *Booklets.*—Ontario, an Ideal Place for Labour; Department of Labour of Ontario; Why Certificates for Stationary and Hoisting Engineers; Boilers; Survey of Industrial Welfare in Ontario.

Lands and Forests.—(Free Distribution.) Annual Report. Handbook on Northern Ontario Settlers' Lands and Colonization. Handbook on Summer Homes, Tourists' Campers in Ontario. The Forest Trees of Ontario (25c.). Woodlots of Ontario. Tree Planting, Ontario. Water Powers of Ontario (50c.). The Ferguson Highway. The St. Ste-Marie-Pembroke Road. Forestry in Ontario. Gathering Pine Cones. Trees in Schools. Northwestern Ontario Highways and Tourist Attractions (50c.).

Mines.—The Mining Act, R.S.O. 1927, with amendments in 1928, 1929, 1930 and 1931; Handbook—Ontario's Mines and Mineral Resources; Bulletin 82, Preliminary Report on the Mineral Production of Ontario in 1931; Report of Royal Ontario Nickel Commission, 1917; Report of Ontario Iron Ore Committee, 1923; Volume XXX, Part II, Ontario Gold Deposits; Volume XXXIII, Part II, 1924, Porcupine Gold Area; Final Report of Joint Peat Committee, 1925; Volume XXXVII, Part II, 1928, Kirkland Lake Gold Area; Volume XL, Part I, 1931, Statistical Review and Mines of Ontario; Bulletin No. 25, List of Publications (Third Edition), giving all reports issued up to March, 1932; Bulletin 180, Money and the World Crisis.

Premier.—Reports of the Hydro-Electric Power Commission of Ontario and Temiskaming and Northern Ontario Railway Commission. Tourists' Handbook. Report of the Queen Victoria Niagara Falls Park Commission.

Provincial Secretary.—Annual Reports: Ontario Board of Parole; Prisons and Reformatories; Annual Report of the Secretary and Registrar of the Province of Ontario (this report is presented to the Legislative Assembly each year, but has not been printed for several years). The Companies Act, including the Extra-Provincial Corporations Act; The Mortmain and Charitable Uses Act and the Companies Information Act. The Co-operative Credit Societies Act. Municipal Bulletins. The Marriage Act. Vital Statistics Act. Physicians' Pocket Reference to the International List of Causes of Death. Annual Report of Births, Marriages and Deaths. The Physicians' Pocket Reference to the International List of Causes of Death is published by the Dominion Bureau of Statistics; copies are kept in this Branch for purposes of distribution.

Public Works.—Annual Report of the Minister, with reports of the Architect, Engineer, Statements of Secretary and of Accountant.

Treasury.—Annual Statements; Main, Supplementary and Further Supplementary Estimates of Expenditure; Public Accounts; Budget Address of Treasurer delivered to the Legislative Assembly; Auditor's Report; Bureau of Archives Report.

MANITOBA.

Agriculture.—*Booklets.*—Annual Crop and Live Stock Reports; Map of the Province; Calendar of the Manitoba Agricultural College. *Bulletins and Circulars.*—Alfalfa and Sweet Clover Growing in Manitoba; Sweet Clover; The Trench Silo; Making Silage in Manitoba; The Canada Thistle; Leafy Spurge; Noxious Weeds Act; How to Kill Couch Grass; Dealing with the Weeds Problem in Manitoba; Questions and Answers about the Thistle; Preparing Grain for Exhibition Purposes; Good Seed Pays; Perennial Sow Thistle and What Can be Done to Control It; The Root Crop in Manitoba; Sow Good Seed and Reap More Dollars; Growing Better Potatoes; Milk and Cream Tests; The Nutrition of the Family; Cream Profits; Farm Butter-Making; Cheese-Making on the Farm; Cream Separator on the Farm; Home Made Brooders; Fattening, Killing, Dressing;

Marketing Chickens; Horses in Manitoba; Sheep in Manitoba; Have you Dehorned your Market Cattle?; Dairy Cattle; Standards for Flower Judging; The Peony; The Gladiolus; Strubs for Manitoba; Success in Growing Annuals; Growing Vegetables in Manitoba; Vegetable Insects and their Control; Birds in Relation to Agriculture; Debates and Public Meetings; Meat Curing Receipts; Salads and Sandwiches; Laundering and Dyeing; Fifty Supper Dishes.

Education.—Annual Report; Empire Day Booklet; Consolidation of Schools; Programme of Studies, Elementary and Senior; Public School Act; The New Day; Notes for Teachers on Dental Hygiene; Regulations.

Municipal Commissioner.—Statistical information respecting the Municipalities of the Province; Tax Arrears and other Information, and list of names and addresses of Administrative and health officials of each Municipality. Report of Municipal and Public Utility Board. Manitoba Tax Commission.

Public Works.—Annual Report, included in Sessional Papers. Report of Insurance.

Attorney-General.—Annual Report. Government Liquor Commission. Workmen's Compensation Board. Annual Report of Manitoba Telephone System.

Provincial Treasurer.—Public Accounts; Estimates; Budget Speech; Report of Manitoba Farm Loan Association.

Provincial Secretary.—*Manitoba Gazette* Journals and Sessional Papers. Statutes of the Province.

Mines and Natural Resources.—Manitoba Mines and Minerals; Mining Maps; Sectional Land Maps.

Health and Public Welfare.—Annual Report; Manitoba Mother; Monthly Pre-natal and Post-natal letters; Manitoba Baby; Manitoba Child; Child Study Material for small community groups; Patterns for Infants' Layette (10 c.); Regulations re Boarding Homes for Children, Maternity Homes, and Day Nurseries; Quarantine Regulations; The Common cold; Measles; Scarlet Fever; Diphtheria; Diphtheria Immunization; Whooping Cough; Rachoma; Typhoid Fever; Health Training Material for Teachers; Report of the Royal Commission on Child Welfare Division; Report on the Poliomyelitis (Infantile Paralysis) epidemic in Manitoba, 1928. Report on Hospitals and Nurses Training Schools in Manitoba—May 1929.

Publications issued by the Dominion Department of Pensions and National Health, the Canadian Council on Child Welfare, The Canadian National Institute for the Blind, also used in educational service.

SASKATCHEWAN.

Agriculture.—Annual Report of the Department of Agriculture. Annual Reports of ranches, etc.; Dairy, Live Stock, Field Crops, Statistics, Extension Department of College of Agriculture. Commission Reports: Live Stock Marketing, Better Farming, Wheat Marketing. Bulletins and leaflets on Live Stock, Field Crops, Dairying, Farm buildings, Tillage Methods, etc.

Other Publications.—Sessional Papers. Annual Reports: Department of Railways, Labour and Industries; Department of Education; Department of Highways; Department of Municipal Affairs; Department of Provincial Secretary; Department of Public Works; Department of Public Health; Department of Telephones; Local Government Board; Public Accounts; Cancer Commission; Research Foundation; Mental Hospitals; The *Saskatchewan Gazette*. By Bureau of Publications: Weekly News Bulletin; Pamphlets on Saskatchewan—Legislation, Natural Resources, etc.

ALBERTA.

Agriculture.—Annual Report of the Department of Agriculture; The Ploughing Match; Summer-fallow in Southern Alberta; Sowing Good Seed; Storing of Roots; Alberta's Weed Problem; Weeds Poisonous to Live Stock; Soil Cultivation; Building up a Dairy Herd; Control of Grasshoppers; Destruction of Gophers; Sheep in Alberta; The Suckling Period; School Fairs Calendar; Agricultural Schools Calendar; Growing Feed in South-western Alberta; Meat Curing on the Farm; Turkey Breeding and Management; Fur-bearing Animals and their Management.

Education.—Annual Report; Courses of Studies for Elementary Schools; Regulations re Public School Leaving Examinations; Regulations re Examinations for Secondary Schools; Grades; Handbook for Secondary Schools; Promotion Tests for Grades V, VI, VII, VIII and IX; Departmental Examinations for Grades X-XII; Pamphlets on Picture Study; Architecture and Sculpture; Summer School Announcement; Course of Studies and Examinations for Commercial Diplomas; Normal School Announcement; Night Class Instruction in Mining Centres; Technical Education in Mining Centres; Bulletin and Regulations covering School Buildings in Rural and Village School Districts; Series of Plans and Specifications for Teachers' Residences; Series of Plans for one- and two-roomed Schools, with Specifications; The Certification of Teachers in Alberta; Annual Announcement of the Provincial Institute of Technology and Art; Courses of Study for pre-vocational classes; Courses of Study for Technical High Schools; School Act; Geography Manual for High Schools; Physical Education for Rural Schools; Physical Education for Secondary Schools; Rural Education in Alberta; High School Civics; Seat Work Problems for Junior Grades.

Attorney-General.—Annual Report on Dependent and Delinquent Children.

Treasury.—Budget Speech containing extracts from Public Accounts and other financial statements; Public Accounts.

Public Works.—Annual Report; Official Highway Guide.

Municipal Affairs.—Annual Report of Department; List of Alberta Municipalities; Report of the Alberta Assessment Commission Triennial Assessment, 1931-1933.

Public Health.—Annual Report of Department; Annual Report on Vital Statistics; Bulletins issued monthly on various Health Subjects. Pamphlets regarding Infectious Diseases—Diphtheria, Scarlet Fever, Measles, Whooping Cough, Smallpox, etc. (in different languages). Public Health Bulletin for Teachers; Alberta Mother's Book; Mouth Health; "What you should know about Cancer" (book); General Information regarding Tonsils; Health Rules for School Children; Hints on Home Nursing; Goitre; Systems of Stat. Medicine (book).

Publicity.—Official Highway Map of Alberta; Alberta's Beauty Spots; Statistics of Progress, 1906-1928.

Other Publications.—Annual Reports are also issued by the following Departments and Branches: Railways and Telephones, Treasury (Insurance Branch), Board of Public Utilities, Labour Bureau, Lands and Mines.

BRITISH COLUMBIA.

Agriculture.—*Dairying.*—(5) Varying Butter-fat Tests; (71) Butter-making on the Farm; (2) Farm Cheese; (12) Rules Governing Cow-testing Associations in B.C.; (6) Clotted Cream; (17) The Story of Feed Unit; (6) Care of Milk and Cream; (21) Certified Milk and Butter-fat Records, 1931; (1) Ropy Milk in B.C.; (13) A Farm Dairy Sterilizer; (9) Dairy Farm Sterilizing Equipment. *Diseases and Pests.*—(45) Anthracnose; (2) Apple Aphides; (4) Apple-scab; (34) Woolly Aphid of the Apple; (38) The Lesser Apple-worm; (32) Cabbage-root Maggot; (37) The Imported Cabbage-worm; (2) Colorado Potato-beetle in B.C.; (35) Currant Gall-mite; (63) Diseases and Pests of Cultivated Plants; (66) Fire-blight; (63) Locust-control; (61) Making Lime-sulphur at Home; (2) The Onion-thrips; (41) The Oyster-shell Scale; (31) Peach-twist Borer; Field Crop and Garden Spray Calendar; Fruit Spray Calendar; (40) Soap Solutions for Spraying; (6) Oil Sprays; (71) Dust Sprays; (33) Strawberry-root Weevil. *Field Crops.*—(6) The Jerusalem Artichoke; (10) Cereal Smuts; (9) Production and Preparation of Grain; (8) Field Corn; (3) Kale and Rape Crops; (36) The Potato in B.C.; (7) Root-seed Production; (98) Roots and Root-growing; (4) Noxious Weeds. *Fruits and Vegetable Growing.*—(5) Blackberry Culture; (69) Cantaloupe-growing in B.C. Dry Belt; (70) Celery Culture; (5) Currant and Gooseberry Culture; (43) Gardening on a City Lot; (54) Loganberry Culture; (51) Orchard Cover Crops; (53) Selection of Orchard Sites and Soils; (62) Planting Place and Distances; (60) Pruning Fruit-trees; (55) Raspberry Culture; (67) Rhubarb Culture; (58) Strawberry Culture; (65) Tomato-growing in B.C.; (42) Top-working of Fruit-trees and Propagation; (64) Varieties of Fruit recommended for Planting in B.C. *Live Stock.*—(67) Care and Feeding of Dairy Cattle; (64) Goat-raising in B.C.; (60) Hog-raising in B.C.; (99) Care and Management of Sheep. *Poultry.*—(27) Breeding-stock Hints; (3) Fattening young Ducks; (15) Profitable Ducks; (25) Hints on Egg Hatching; (93) Feeding for Egg Production; (12) Management of Geese; (31) The Goose; (33) Management and Rearing of Guinea-fowls; (39) Natural and Artificial Incubation and Brooding; Poultry-breeders' Directory; (63) Poultry-house Construction; (11) Poultry-keeping on a City Lot; (49) Market Poultry; (26) Practical Poultry-raising; (19) Poultry Rations for

icks and Layers; (29) Rabbit Culture; (80) Fur-bearing and Market Rabbits; (28) Rabbit Recipes; (30) Sod-house Construction; (4) Management of Turkeys. *Settlers' formation*.—(43) Agriculture in the Similkameen, Boundary, and Kettle River Districts; (4) Agriculture in West Kootenay; (51) Central B.C.; (42) The Columbia Kootenay Valley; (44) Some Facts about B.C.; (40) The Okanagan Valley; (33) Vancouver Island and Gulf Islands. *Economic Survey Bulletins*.—(101) An Economic Study of Small-fruit Farming in B.C.; (39) Small-fruit Survey, 1921; (105) Tree-fruit Farming in B.C.; (49) Tree-fruits Survey, 1921-25. *Miscellaneous*.—(92) Bee Culture in B.C.; (52) Better Farming Suggestions; (85) Clearing Bush Lands in B.C.; (50) Exhibition Standards of Perfection; (3) Recommendations and Suggestions to Fall Fair Associations; Farm Account Book; (10) Farmers' Institutes of B.C.; Farmers' Institute By-laws; Farmers' Institute Rules and Regulations; Board of Horticulture Rules and Regulations; (47) Use of Water in Irrigation; (5) Judging Domestic Science and Women's Work, with Hints to Exhibitors; List of Publications; (35) How to Pack Nursery Stock; (83) Preservation of Food; (66) Silos and Stacks; (5) Soils, Peat and Muck; Women's Institute By-laws; Women's Institute Rules and Regulations. *Reports*.—Agricultural Statistics, 1931; Climate of B.C., 1931; Department of Agriculture Reports, Years 1927, 1928, 1929, 1930 and 1931.

Lands.—*Forest Branch*.—Circulars: "How to Obtain a Timber Sale" and "Forests and Forestry in British Columbia"; Grazing Regulations.

Mines.—Comprehensive annual reports, special bulletins, preliminary reports, etc., obtainable on application to the Department of Mines.

Bureau of Provincial Information.—The Manual of British Columbia; Come to British Columbia; British Columbia invites you to the Land of the Golden Twilight; Luring British Columbia; Picturesque Highways of British Columbia; Rod and Rifle in British Columbia; Touring in British Columbia; British Columbia, Canada. *Lands and Resources of Bulletins*.—(1) How to Pre-empt; (2) Some Questions and Answers regarding British Columbia; (3) British Columbia—Northern and Central Interior; (5) British Columbia—Southern Interior; (6) British Columbia Coast, Lower Mainland; (7) British Columbia Coast, Toba Inlet to Queen Charlotte Strait; (8) British Columbia Coast, Queen Charlotte Strait to Milbanke Sound; (9) British Columbia Coast, Milbanke Sound to Portland Canal; (10) Crown Lands, Purchase and Lease; (11) Cariboo Land Recording Division; (12) Kamloops Land Recording Division; (13) Similkameen Land Recording Division; (14) Vancouver Island; (15) Queen Charlotte Islands; (16) Cranbrook and Fernie Land Recording Divisions; (17) Yale Land Recording Division; (18) Osoyoos Land Recording Division; (19) Nicola Land Recording Division; (20) Nelson and Slocan Land Recording Division; (21) Revelstoke and Golden Land Recording Division; (22) Skeena and Recording Division; (23) Stikine and Atlin Land Recording Division; (24) Hazelton and Recording Division; (25) Peace River District; (26) Omineca District, Nation Lakes, etc.; (27) New Westminster Land Recording Division; (28) François-Ootsa Lakes; (29) Endako and Nechako Rivers; (30) Stuart and Babine Lakes; (31) Vicinity of the Pacific Great Eastern Railway (Squamish to Clinton); (32) Vicinity of the Pacific Great Eastern Railway (Clinton to 52nd Parallel); (33) Central Lillooet Division; (34) The Lillooet Plateau; (35) Fort George Land Recording Division, Central and Western Portions; (36) South Fork of the Fraser and Canoe River Valleys; Mount Garibaldi Park; Mount Robson Park; Strathcona Park, Vancouver Island.

CHAPTER XXX.—THE ANNUAL REGISTER, 1931.

Section 1.—Dominion Legislation, 1931.

Finance and Taxation.—Five Appropriation Acts were passed during the session, *viz.*, cc. 1, 2, 3, 14 and 61, all applying to the fiscal year ended Mar. 31, 1931. C. 1 granted \$6,148,655.29 and \$13,694,008.93 for defraying the general charges and expenses of the Public Service in accordance with the accompanying Schedules A and B. C. 2 granted the sum of \$40,199,447.43, being one-sixth of the amount of each of the several items to be voted as set forth in the Estimates, and a further \$1,887,664.67, being one-sixth of the amount of each of several items set forth in the Schedule to the Act. By c. 3, a further sum of \$20,099,723.71 was granted to cover one-twelfth of the amount of each of the several items as set forth in the Estimates, and additional sums of \$1,154,091.25 and \$943,832.33 to cover respectively one-fourth and one-twelfth of the amount of each of the several items set forth in Schedules A and B of this Act.

C. 14 granted \$20,099,723.71 to cover a further one-twelfth of the items as set forth in the Estimates, and \$943,832.33, being one-twelfth of the items set forth in the appended Schedule.

The Appropriation Act, No. 5, 1931 (c. 61) provided for \$159,643,698.47 to cover five-twelfths of votes Nos. 80, 232, 233, 280 and 284, and two-thirds of the amount of each of several items set out in Schedule A, appended; \$7,550,658.67, being two-thirds of the amount of each of the items enumerated in Schedule B, and \$13,907,634.14 as set forth in Schedule C. C. 61 also granted power to raise a loan of \$150,000,000 for public works and general purposes, and required that a detailed account of the sums expended should be laid before the House of Commons during the first fifteen days of the next Session of Parliament.

Part I of the Consolidated Revenue and Audit Act, 1931 (c. 27 of the Statutes) provided that all public monies should be paid to the credit of the Receiver-General in such manner as the Minister of Finance directs, and laid down certain requirements for persons charged with the receipt of public monies; Part II set forth the powers of the Governor in Council regarding the public debt and the raising of authorized loans; Part III referred to the disbursement of public monies; Part IV defined what the Public Accounts shall show, the period they shall cover and manner of presentation to the House of Commons; Parts V and VI referred to the Auditor-General, his tenure of office, appointment and salary, and powers; Part VII dealt with the civil liability of officers and persons who refused or neglected to transmit accounts, statements or returns, and how such officers or persons should be proceeded against; Part VIII dealt with penalties to be imposed for offences under the Act, and Part IX provided for the making of such Regulations as would ensure the carrying out of the provisions of the Act and for the fixing of the date of commencement by the Governor in Council but not later than April 1, 1932.

The Income War Tax Act was amended by c. 35 by increasing the rate of tax applicable to corporations and joint stock companies on the amount in excess of \$2,000 from 8 to 10 p.c. as from the commencement of the 1930 taxation period. It was also provided that interest would not be charged for non-payment of the increase before December 1931, but thereafter with interest and penalties laid down in this and former legislation.

The Loan Act, 1931 (c. 38) authorized the raising, by the Governor in Council under the provisions of the Consolidated Revenue and Audit Act, of such monies as may be required, but not to exceed \$750,000,000, for redeeming outstanding obligations of Canada or withdrawing from circulation unmatured securities, and public works or general purposes.

By c. 48—An Act respecting the establishment of the Royal Canadian Mint—Ottawa branch of the Royal Mint was transferred to the control of the Finance Department; the Finance Act (c. 71—R.S.C., 1927) was amended accordingly and the Ottawa Mint Act (c. 134—R.S.C., 1927) was repealed. Part II of the Act provides for details of administration of the Royal Canadian Mint.

The Customs Tariff was amended by c. 30 with respect to the rates of duty applied on a large number of commodities listed as Schedule A accompanying the Act. By c. 55 provision was made for the appointment of a Tariff Board; Part I defined the constitution and duties of the Board, and Part II provided for exercise, by the Tariff Board, of the duties of the Board of Customs and the substitution of the former for the latter.

Agriculture.—By c. 31, the Dairy Industry Act was amended by the redrafting of Section 10, establishing the penalties for the violation of Sections 5 and 7 of the original Act as \$500 to \$1,000 for the first offence and \$1,000 to \$2,000 in the case of a second offence. If such penalty and the costs of prosecution are defaulted, in the case of a third offence, imprisonment for a term not exceeding six months was provided for.

Insurance, loan or trust companies were empowered, notwithstanding previous legislation, to acquire and dispose of shares in the Dominion Agricultural Credit Co., Ltd., by c. 32.

By c. 47, Section 6 of the Root and Vegetables Act, *re* the marking of packages, was repealed, and Section 19, as later amended, was redrafted to exempt seed potatoes, 'green onions', or any potatoes or onions for export under certain conditions, from the provisions of the Act.

An Act respecting wheat, c. 60 of the Statutes, provided for the payment out of the Consolidated Revenue Fund of the sum of 5 cents for every bushel of wheat grown in the Prairie Provinces in 1931 and delivered as laid down in Section 1. The Governor in Council was empowered to make Regulations necessary to the carrying out of the provisions of the Act, which is to expire on July 31, 1932.

Insurance, Loan and Trust Companies.—The Special War Revenue Act (c. 179, R.S.C., 1927) was amended by c. 54 of the Statutes. Part III, dealing with "Insurance Premiums other than Life and Marine", was redrafted to provide for a tax of 1 p.c. on net premiums and every person or corporation insuring with a non-licensed company was required to pay a tax of 15 p.c. of such gross premium. Details of the manner of payment of the tax and penalties for neglect were set forth.

Section 69 of the Trust Companies Act was amended by c. 57 so as to limit the aggregate amount of money borrowed and money entrusted to a company for investment, the repayment of which is guaranteed by the company, to seven times the amount of the company's unimpaired paid-up capital and reserve.

Interior.—The Alberta Natural Resources Act, No. 2—c. 15 of the Statutes—amended the Alberta Natural Resources Act (c. 3 of the Statutes of 1930) and provided that, notwithstanding anything in the agreement made between the Province and the Dominion Government in December, 1929, the actual date of transfer should be Oct. 1, 1930, instead of Aug. 1, 1930.

The Saskatchewan Natural Resources Act (c. 41 of the Statutes of 1930) was similarly amended by c. 51 of the Statutes.

Justice.—The Canada Evidence Act (c. 59, R.S.C., 1927) was amended by c. 51 as regards proof of entries in Dominion books, so as to make the sworn official statement that, after search of the records, no trace of the issuance of a licence or other document has been found, proof that such has not been issued.

C. 28 of the Statutes amended the Criminal Code chiefly in respect to such matters as parading while nude in a public place; the manufacture, import, export or distribution of bacteria, potentially dangerous to man, for the purpose of destroying rats, other rodents or vermin; publication of false advertisements to promote sale of real or personal property; counterfeiting of government marks, liquor seals, etc.; and forging of trade marks.

Section 32 of the Interpretation Act (c. 1, R.S.C., 1927) was repealed by c. 36 of the Statutes as regards the Court of Appeal for Ontario.

C. 37 amended the Judges Act and provided that any judge of a Superior Court or of any province of Canada appointed Chief Commissioner or Assistant Chief Commissioner of the Board of Railway Commissioners for Canada since January 1931 may, on ceasing to hold office, be granted an annuity equal to that which he would have received if he had continued in office as a judge and he vacated on the same date.

The Prisons and Reformatories Act (c. 163, R.S.C., 1927) was amended by c. 46 to allow Roman Catholic females to be sentenced to reformatory instead of prison or gaol in Nova Scotia and New Brunswick on summary examination or inquiry by a Supreme Court judge of either province and substitution of sentence under the provisions of this Act. In the case of New Brunswick, provision is also made to allow the Courts to sentence women and girls convicted of an offence punishable by imprisonment for a term of less than two years to a local reformatory instead of the common gaol or other prison.

Labour.—The Government Employees Compensation Act (c. 30, R.S.C., 1927) was amended by c. 9 to bring the compensation paid, on account of personal injury or accident, to a Government employee in the course of his employment, into line with that paid under the law of the province where such accident occurs. A special provision was included to cover employees on the Government railways.

An amendment to the Government Annuities Act (c. 7, R.S.C., 1927) was made by c. 33 limiting the granting of annuities in future to the actual annuitant and the amount to over \$10 and under \$1,200 a year.

C. 42 amended the Old Age Pensions Act (c. 156, R.S.C., 1927), increasing the payments made by the Dominion to the provinces to 75 p.c. of the net sum paid out to persons entitled to such pension. Provision was also made for the examination and audit of the provincial old age pension accounts by the Dominion Government.

The Unemployment and Farm Relief Act, 1931, c. 58 of the Statutes, gave power to the Governor in Council, in his discretion, to expend such monies as may be deemed expedient for relieving distress and providing employment. The powers of the Governor in Council under this Act were outlined.

C. 59, an Act for the Promotion of Vocational Education in Canada, appropriated \$750,000 per annum for a period of fifteen years from which sum payment could be made to the Governments of the provinces for this purpose, such payment

being conditional upon agreements being entered into with the provinces concerned. Provision was made for payments in proportion to population and for the making of Regulations by the Dominion Minister of Labour.

Pensions and National Health.—The Canadian Red Cross Society Act (c. 68 of the Statutes of 1909 as enacted in 1922 and amended in 1926) was amended by c. 24 to permit the Society to acquire and hold property, estate or rights or to mortgage, pledge, mortgage or otherwise dispose of such property. Real estate held in Canada by or in trust for the Society, however, must not exceed \$100,000. Amendments were also made with respect to the organization of the governing body.

C. 44 of the Statutes amended the Pension Act (c. 157, R.S.C., 1927) as regards the organization of the Pension Tribunal and the appointment of counsel to the Commission, the duties of the Commission, etc.

Post Office.—The Post Office Act (c. 161, R.S.C., 1927) was amended by c. 6 with regard to the postage rate on certain newspapers and periodicals issued more than once a week and in the case of others upon the circulation in excess of 500 copies per issue. The postage rate in these cases was made 1½ cents per lb. in fraction thereof on and after July 1, 1931, such postage to be prepaid as the postmaster-General from time to time directs. Provisions were added respecting each of the said newspapers and periodicals as have a circulation up to 10,000 copies per issue and papers devoted to religion, science or agriculture, where the rate was to remain at 1 cent per lb.

Royal Canadian Mounted Police.—By c. 11 of the Statutes, the Royal Canadian Mounted Police Act (c. 160, R.S.C., 1927) was amended to permit of the taking over of provincial police upon such terms and conditions as may be agreed upon between the Dominion Government and the Government of any province, and upon approval by the Governor in Council. The Act is deemed to have come into operation on April 1, 1928.

Soldier Settlement.—C. 53 provided for the amendment of the Soldier Settlement Act (c. 188, R.S.C., 1927). The chief changes were made in relation to the office of Director of Soldier Settlement and his powers.

Trade and Commerce.—The Copyright Act (c. 32, R.S.C., 1927) was amended by c. 8 of the Statutes, with regard to: the definition of certain terms; cases of joint authorship of a copyright; author's right to restrain acts prejudicial to his reputation; assessment of damages in the case of infringement of copyright; powers of the Commissioner of Patents and the Registrar, and the registration of "grants of interest" and other matters. Provision was made that the Governor in Council may take such action as necessary to secure the adherence of Canada to the Rome Copyright Convention of 1928.

The Australian Trade Agreement Act, 1931 (c. 16 of the Statutes), repealed the Australian Trade Agreement Act, 1925, authorized the Governor in Council to make such Regulations as are necessary to the proper carrying out of the Act and the Agreement published as a Schedule, and fixed the coming into force of the Act as following proclamation and publication in the *Canada Gazette*.

By cc. 17 and 18 amendments were made to the Bankruptcy Act (c. 11, R.S.C., 1927). In the former case, the purpose of the amendment was to safeguard the rights of any person holding a claim against the debtor, for damages occasioned

by a motor vehicle, by permitting the proceeds of any liability insurance to be applied to those claims. The amendment in the latter case had relation to the priority of claims for wages, salaries and commissions.

An amendment to the Companies Act (c. 27, R.S.C., 1927) was made by c. 22 of the Statutes to allow companies to make loans to employees to assist them in the erection of dwelling houses, even though such employees be shareholders of the company; and to prevent auditors of any public company from being appointed directors or holding other office in the company.

The Customs Act (c. 42, R.S.C., 1927) was amended by c. 29 as regards several matters pertaining to the administration of the Act.

Transportation.—C. 6 amended the Canadian National Railways Act (c. 127, R.S.C., 1927) with regard to the nomination of directors, and empowered the Minister of Railways and Canals to appoint any person to inquire into and report upon any matters affecting the company or the operation of the Government railways.

By c. 7, an agreement dated Jan. 28, 1926 (Schedule A to c. 7), between the Canadian Pacific Railway, the Canadian Northern Railway and Grand Trunk Pacific Railway and the amending agreement dated May 5, 1930, made by the Canadian Pacific Railway, the Canadian Northern Railway, the Grand Trunk Pacific Railway, the Grand Trunk Pacific Branch Lines Company and the Canadian National Railway Company (Schedule B to c. 7) were ratified.

By c. 10, power was given to the Northern Alberta Railways Company to construct and complete certain lines described in the Schedule to this legislation.

An Act respecting the Beauharnois Light, Heat and Power Company, Limited, granting the right to divert water from lake St. Francis up to 52,072 cubic seconds of the flow of the river St. Lawrence and providing that further diversion approved by Parliament, formed the subject matter of c. 19. The works of the Beauharnois Light, Heat and Power Company, Limited, were declared to be for the general advantage of Canada by c. 20.

The requirements for certificates of service as masters and mates were revised by c. 21—an Act to amend the Canada Shipping Act.

The Canadian National Railways Financing Act, 1931 (c. 22 of the Statutes) authorized the provision of monies to meet expenditures during 1931. The purposes for which capital could be borrowed and the adoption of the principle of competitive bids were established by the Act. C. 23 authorized the guarantee by the Government of securities issued under c. 22.

A loan of \$450,000 for the construction of terminal facilities was provided to the Chicoutimi Harbour Commissioners by legislation under c. 25 of the Statutes and other loans of \$3,500,000 for terminal facilities and \$300,000 to complete the grain elevator and meet outstanding indebtedness were made to the Halifax Harbour Commissioners and the New Westminster Harbour Commissioners respectively under cc. 34 and 40. The North Fraser Harbour Commissioners Act (c. 1 of the Statutes of 1913) was amended by c. 41 with regard to the harbour limits and the power of the corporation to make by-laws. C. 50 provided for a loan of \$10,000,000 to the Saint John Harbour Commissioners for the construction of terminal facilities, and c. 56 a loan of \$700,000 to the Three Rivers Harbour Commissioners for the same purpose.

Miscellaneous.—November 11 was declared a holiday “to be kept and served as such under the name of Remembrance Day” by c. 4 of the Statutes.

The Salaries Act (c. 182, R.S.C., 1927) was amended by c. 12 as regards the salary of the Solicitor General which was set at \$10,000 per annum. The Minister of Justice or such other Members of the Government as may be designated by the Governor in Council were named by c. 13 to advise the Governor General upon matters connected with administration of the Ticket of Leave Act (c. 197, R.S.C., 1927).

The Naturalization Act (c. 138, R.S.C., 1927) was amended by c. 39 as regards nationality and rights of married women.

The Minister of Public Works was empowered to extend for a period of one year the agreement with the Corporation of the City of Ottawa made by c. 15 of the Statutes of 1920 and formerly extended in 1924 and 1925. This agreement provided for a fixed annual payment from the Government in addition to payment for water supply from the Corporation. The Government also undertook the upkeep of certain works in the vicinity of Parliament Hill.

The Safety of Life at Sea and Load Line Conventions Act, 1931, was passed by c. 49 of the Statutes. This legislation confirmed and sanctioned International Conventions signed in London in 1929 and 1930 respectively concerning the subject matters of the Act and published as Schedules thereto.

C. 52 of the Statutes amended the Senate and House of Commons Act by providing that a member of the House of Commons shall not vacate his seat solely for acceptance of an office of profit under the Crown if that office does not prevent him from being elected to, or voting in, the House. The Act also provides that a Member of the Privy Council holding Cabinet position shall not be disqualified from accepting such office by reason of his position if he is appointed while he holds office.

The Statute of Westminster.

On June 30, 1931, the House of Commons adopted the Address of the Parliament of Canada to His Majesty dealing with the Statute of Westminster. The Senate adopted the Address on July 6, 1931, and on December 12, 1931, after this Address and similar Addresses from other Dominions had received the Royal Assent, the Statute of Westminster became effective. This Statute established the complete legislative equality of the Parliament of United Kingdom and the self-governing Dominions.

Section 2.—Provincial Legislation.

A list of the public Acts of the Provincial Legislatures usually appears under Section of the Year Book. In order to conserve space, it has been decided this year to refer the reader to the different provincial authorities for information in this connection. It is felt that whatever is lost to those readers who are interested in having all provincial legislation brought together and listed under one head, is more than offset by the information of more general interest which it has been possible to include in the limited space available, but which would otherwise have to be omitted.

Section 3.—Principal Events of the Year 1931.

Finance.—The heavy expenditures undertaken in 1931 and in prospect for 1932 for farm and unemployment relief and the anticipated inability of the Canadian National to earn its bond interest, resulted in the decision of the Government to offer for subscription a new loan, known as the National Service Loan, \$150,000,000 bearing the interest rate of 5 p.c. on Nov. 23, 1931. Subscriptions lists closed on Nov. 30, at which time the loan was oversubscribed to the extent of 40 p.c. No more conclusive evidence of the financial stability of Canada could have been desired, for following within an interval of a few months the conversion of \$650,000,000 of Dominion Government bonds at a lower rate of interest and in the light of general conditions with which Canada, along with all other countries, was face to face, it showed the unshakeable faith of Canadians in the future of their country at a time when some manifestation of confidence was most desirable.

Trade and Commerce.—The wheat situation in Canada became very critical in 1931. The drastic decline in the price of wheat, brought about largely by Russia's re-entry into the world market, combined with inability to market the remainder of the large crops of preceding years, still in storage, found Canada with a large wheat producing and marketing organization and a very considerably restricted market. The Wheat Pools found themselves in financial difficulties which resulted in the reorganization of the Pools as co-operative elevator companies only. In April 1931, the Dominion Government decided to probe the effect of futures trading on the price of grain and a Royal Commission was appointed for this purpose. Josiah Stamp was Chairman, and Sanford Evans and Chief Justice J. T. Branson were members; their report was tabled in the House of Commons on June 4, 1931. The Commission found "that the practice of 'hedging' in the grain trade tends, by spreading the risks of the traders, to get a better price for the grower". But while the Commission thus found in favour of futures trading, it was recommended that an officer representing the Government be placed on the Exchange to officially watch proceedings.

Early in 1931 the Government imposed, by Order in Council, an embargo upon Russian goods entering Canada. The reasons for the embargo were the conditions under which Russian goods were made and the methods adopted by the agents of Russia in carrying out their plans and operations in Canada.

The Canada-Australia trade pact was tabled in the Parliaments at Ottawa and Canberra on July 13, 1931. Canada was granted the British preference on a very wide group of items. In August the Minister of Trade and Commerce announced that discussions towards a trade treaty with New Zealand were proceeding, and in September it was announced that a trade treaty with South Africa was being considered. The trade treaty with New Zealand was advanced by a Conference between Hon. H. H. Stevens and the New Zealand Minister of Finance and Customs, held in Honolulu towards the end of the year; the text of the agreement was tabled April 27, 1932 and the treaty came into being in May, 1932.

The events following the suspension of the gold standard by Great Britain (Sept. 21, 1931), her balancing of the budget by drastic increases in all forms of taxation and the return of a National Government to power have been construed from an inter-Empire trade standpoint. One of the earliest actions of the National Government was the abandonment, at least temporarily, of Britain's historic trade position. The Abnormal Importations Act, a temporary emergency measure, was passed in November, 1931, to allow time for a stable tariff policy, imposed on

50 p.c., based on value, on a long list of articles but gave full Empire preference the Dominions, though safeguards were applied to prevent foreign countries from gaining advantage of the preference by shipping through certain Dominions. In February, 1932, the Import Duties Bill was passed with a 10 p.c. "tariff for revenue" on manufactures, and an Advisory Committee on Import Duties was appointed. In this legislation there was as little interference as possible in the trade of primary materials, and the Dominions were as before given full preference. Again in April, 1932, the 10 p.c. tariff wall was doubled, the Import Duties Advisory Committee having recommended that a 20 p.c. duty be imposed on nearly every type of imported manufactured goods (the actual rate varied between 15 p.c. and 20 p.c. on a limited number of goods but was 20 p.c. on the large majority). These measures have been at least of temporary value to Canada and hope of turning them to greater and permanent benefit by the promotion of inter-Empire trade on a basis mutually satisfactory to all members of the Commonwealth at the forthcoming Imperial Conference is entertained.

Transportation and Communications.—The United States indicated willingness to shoulder the cost of the International Section of the St. Lawrence Seaway, in consideration of Canada's investments at other points, in October, 1931, and in November the Hon. W. D. Herridge, Canadian Minister to Washington and Hon. H. L. Stimson, U.S. Secretary of State, met to open negotiations on the subject.

In February, 1932, the Imperial Privy Council's finding in the question of radio control, which had been referred by the Quebec Government from the Superior Court to London, was made in favour of the Dominion Government. Immediately (April 1932) the Dominion Government appointed a Parliamentary Committee to investigate the question of a form of control suitable to Canadian conditions. Its Committee reported in favour of a National System of broadcasting.

International Conferences.—At the Fifteenth Session of the International Labour Conference, held in Geneva from May 28 to June 18, 1931, the Government of Canada was represented by the Hon. G. Howard Ferguson, High Commissioner for Canada in Great Britain, and Dr. W. A. Riddell, Canadian Government Advisory Officer, Geneva. Mr. V. A. Sinclair, Chairman of the Ontario Workmen's Compensation Board, assisted as adviser.

At the Twelfth Assembly of the League of Nations, held in Geneva Sept. 7-29, 1931, Canada was represented by the Hon. Hugh Guthrie, Senator the Hon. P. Beaubien and Mrs. H. P. Plumptre. The Hon. Martin Burrell, Parliamentary Secretary; The Hon. Philippe Roy, Minister at Paris; and Dr. W. A. Riddell, Canadian Advisory Officer, Geneva, served as alternate delegates.

The Canadian delegation to the World Disarmament Conference, which met in Geneva in February, 1932, included: the Rt. Hon. Sir George Perley, Hon. Maurice Dupré and Miss N. W. Kydd, President of the National Council of Women, Montreal. Mr. L. B. Pearson of the Department of External Affairs and Major-General A. G. L. McNaughton, C.M.G., D.S.O., Chief of the General Staff, Department of National Defence, accompanied the delegates as technical advisers.

Distinguished Visitors, 1931.—Their Imperial Highnesses Prince and Princess Takamatsu of Japan, visited Canada from April 28 to May 10, on their return from England on a mission from H.I.M. the Emperor of Japan to H.M. George V.

Their Majesties the King and Queen of Siam visited Canada from July 29 to Sept. 12, *en route* to their own country.

Subsection 1.—Review of Canadian Conditions during 1931.

The Economic and Financial Trend.—The world-wide commercial depression which commenced in the latter part of 1929 and developed throughout 1930 was even more pronounced in 1931. The continued subnormal level of productive activities and commerce, with no encouraging signs of improvement as the normally more active season of summer advanced, occasioned a general pessimism which resulted in a loss of confidence in financial institutions and securities. Hoarding of currency developed in the United States and many of that country's banks were obliged to close their doors, while panic conditions springing up in the financial markets of central Europe spread through Germany to London and resulted in the suspension of gold payment by Britain on Sept. 21, 1931. These developments in the world at large necessarily affected Canada seriously, and Canadian currency declined in sympathy with the British pound sterling in the gold exchanges. However, British and Canadian currencies have since strengthened very materially in international exchange, while a decline in interest rates in the money market of the world indicates a relaxing of the tight credit conditions produced by the panic.

Depressions are usually marked by declines in commodity prices, and in the case of the current depression such declines have been particularly drastic, more especially in the world prices of primary commodities. In the present stage of Canada's development, the foundation of her economic organization is the production, by a large proportion of the population, of commodities drawn from her farms, her forests, her mines and her fisheries, the surplus of which is disposed of in world markets, while the remainder of the population are engaged in producing commodities or supplying services for domestic use. Under these circumstances the curtailed world demand and greatly lowered prices for primary commodities have borne particularly hard upon Canada. The Canadian index of the wholesale price of raw or partly manufactured goods, with 1926 as a base, averaged 97.5 during 1929 and in December of that year stood at 98.9. By December, 1930, it had dropped to 67.3, or 32 p.c. in one year, and by December, 1931, to 59.5. The wholesale index for fully or chiefly manufactured goods, on the other hand, stood at 93.5 in December, 1929, 81.5 in December, 1930, and 72.9 in December, 1931. The slackened industrial activity in this country is, to some extent, the result of the disproportionate decline in the prices of primary commodities as compared with the retail prices of consumer's goods, and the consequent lack of purchasing power in that large portion of the population associated with the primary industries.

Agriculture.—The agricultural population was particularly severely affected by the three years of reduced crops, aggravated by the very low prices. The estimated value of the field crops of Canada, which amounted to \$1,125,000,000 in 1928, declined in 1929 to \$949,000,000, in 1930 to \$662,000,000 and in 1931 to \$425,000,000. Thus, this principal revenue of the agricultural industry was in 1931 little more than one-third of that in 1927 and 1928. The area under field crops in 1931 was estimated at 57,964,000 acres, compared with 62,215,000 acres in 1930 and 59,352,000 acres in 1928. The average price per bushel received by growers for their wheat in 1931 was estimated at 38 cents, compared with 49 cents in 1930 and \$1.05 in 1929.

However, the prices of grains have remained fairly constant for some months now, having risen somewhat from a lower level in September, 1931. The world trade in cereals on a quantity basis in the past year has been up to the average of more prosperous former years, and it is expected that the end of the crop year will see the large world surplus of recent years considerably reduced, a factor which would prevent further serious declines in the price level of these commodities. Even good and well distributed crops in Canada during the coming season, there is the prospect for a definite improvement in the position of the agricultural industry.

Forest Products.—The production of the products of the forest, both in the form of lumber and of pulp and paper, has been greatly curtailed during the current depression. The cut of lumber, which in 1929 amounted to 4,741,941 M ft. b.m., declined to 3,989,421 M ft. b.m. in 1930. While figures are not yet compiled for 1931, an indication of a further serious decline in the latest year is given by the reported quantities of timber scaled in British Columbia, which were 2,940 million bd. ft. in 1929 and declined to 2,332 million bd. ft. in 1930 and to 1,719 in 1931. Pulp and paper production in Canada expanded greatly in the post-war period due to the immense resources of spruce forests and readily available water powers. The productive capacity of Canadian newsprint mills increased from 2,630 tons per day in 1920 to 12,630 tons per day in 1930. Newsprint production was 2,725,331 tons in 1929 and 2,497,452 in 1930, while a preliminary estimate for 1931 indicates a further decline to 2,220,775 tons. The decrease in building operations and the decline in newspaper and other forms of advertising, as a result of the depression, have curtailed the demand for the products of these industries. Furthermore, a large proportion of the annual Canadian production of these forest products is normally exported, so that the industries have been affected by the serious decline in world trade and in world prices. A disturbing factor in the world markets for agricultural and forest products in recent years has been the great increase in the quantities of these commodities exported by Russia. This reappearance of Russia as a large exporter in direct competition with Canada has seriously reduced both the quantities exported and the prices received by Canadian exporters of these products, and has been an important element in causing the present curtailment of production in Canada.

Mineral Production.—Canada's mining industry has been developed to the extent where, especially in the field of metallic minerals, her productive capacity far beyond her own domestic requirements and she is in consequence dependent upon world markets. She has, therefore, suffered from the severe curtailment of buying and price declines in those markets; yet her mining industry has shown a remarkable degree of stability under these adversities. It is true that the total estimated value of mineral production has declined from \$310,850,246 in 1929 to \$279,873,578 in 1930 and \$227,456,365 in 1931, or by 28 p.c. in two years. But, had the prices obtained in 1929 continued during 1930 and 1931, it is estimated that the decline due to reduced quantities produced would have amounted to only 9 p.c. Declines in prices have been very great, especially in silver and base metals. Reductions in the quantity produced have also occurred in these metals, in coal, asbestos and other non-metallic mineral products, but, with the exceptions of nickel, asbestos, lead and gypsum, the reductions have not been large and have been partially offset by the large increase in gold, while the production of copper, zinc, petroleum and the minor products, was also greater in 1931 than 1929. The value of gold produced in Canada has increased from \$39,082,005 in 1929 to \$55,715,120 in 1931 and present developments indicate a further increase during the coming year.

Hydro-Electric Power.—The marked development of the hydro-electric resources of the Dominion in progress during the post-war period was continued throughout 1931, despite the major depression in other lines. New water-powered installations brought into operation during 1931 amounted to 541,325 h.p., bringing the installation in Canada to a total of 6,666,337 h.p. at the end of the year. During the past eight years, 1924 to 1931 inclusive, 3,474,485 h.p. or more than half of Canada's present total has been installed. Construction was active on many new undertakings throughout the country, several of which were of outstanding importance, and it is anticipated that over 1,400,000 h.p. will be added to the total in the next two or three years.

Canada is now second only to the United States among the countries of the world in output of electric current. Kilowatt hours generated in 1929 amounted to 17,961,840,000 and in 1930 to 18,093,802,000. The estimated output for 1931 shows a decline to 16,610,000,000 kilowatt hours, or a total somewhat above that of 1928. In view of the fact that an important factor in this decline was a great reduction in the export of off-peak power at the Niagara frontier, the output of electrical energy has been very well maintained in the present depression.

Construction.—The decline in construction which was in evidence during 1930 was still more pronounced during 1931. The value of construction contracts awarded during the year was \$315,482,000, compared with \$456,999,600 in 1930 and \$576,651,800 in 1929, a decline of 31 p.c. from the 1930 total and 45 p.c. from that of 1929. The total was the lowest since 1925 and, had it not been for a fairly high level of activity in engineering construction, would have been much lower since residential, business and industrial construction showed much greater proportional decreases. The building permits issued by 61 cities declined from \$234,944,549 in 1929 to \$166,379,325 in 1930 and \$112,222,845 in 1931, or by 52 p.c. in the two years.

Manufactures.—In spite of the general curtailment in manufacturing since 1929, certain groups of industries have maintained a fairly high level of activity. This is particularly the case with the food and clothing industries. Thus the index of employment (1926 = 100) in manufactures of edible plant products was 110.9 in 1929 and 105.4 for 1931; of edible animal products, 113.8 in 1929 and 102.7 in 1931; and of textile products, 107.2 in 1929 and 97.6 in 1931. This is more to be expected since industries providing many of the necessities of life are included in these groups. Moreover, these same groups did not expand in production during the period from 1923 to 1929 (see p. 322 of this volume) to anything to the same extent that groups producing luxuries and equipment did. On the other hand, nearly all branches of the iron and steel industry have been severely affected by the depression. In the primary section of the industry, the production of pig iron, which reached a high record at 1,080,000 long tons in 1929, dropped to 747,448 tons in 1930 and to 420,038 tons in 1931, while the production of steel which reached a total of 1,378,000 long tons in 1929, was 1,012,000 tons in 1930 and 673,087 tons in 1931. In appraising this curtailment, it should be remembered that in 1929 the industry was more actively employed than in any other peacetime year. Since that time the contraction of operations in the construction industry, drastically reduced expenditures on improvement and equipment forced upon railways by falling revenues, and the greatly reduced demand for industrial equipment, agricultural machinery and motor vehicles, have all had a depressing effect upon the volume of operations in the primary iron and steel industry. As indicated, this has been partially due to a falling off in the activity of the secondary iron :

el industries. The index of employment (1926=100) in the agricultural implement industry dropped from an average of 115.6 for 1929 to 67.3 for 1930 and 37.2 for 1931, as a direct result of the reduced purchasing power of the agricultural population. The production of motor vehicles in Canada reached a high record in 1929 with a total of 262,625 cars and trucks, but declined to 153,372 in 1930 and 82,614 in 1931, a smaller total than in any year since 1921. This has been the result not only of reduced purchases of cars in the domestic market due to the hard times, but to a large falling off in exports, which amounted to 101,711 in the calendar year 1929 and only 13,813 in 1931.

Railway Transportation.—The chief transportation agencies in Canada—the two great railway systems—have been inevitably affected by the sharp decline in the volume of the principal crops since 1928 and still further by reductions in commercial activity in many other lines in the last two years. Moreover, motor vehicles and improved highways have offered serious competition to the railways, chiefly in passenger traffic, but increasingly also in freight traffic in the more densely populated parts of the country. The loadings of revenue freight on all Canadian railways in 1929 at 3,524,019 cars were slightly lower than in 1928. The loadings dropped to 3,146,247 in 1930 and 2,570,520 in 1931, a decline of 31 p.c. from the record year 1928. The percentage declines in the two years from 1929 to 1931 for the various classes of commodities were as follows: grain and grain products, 4 p.c.; live stock, 28 p.c.; coal, 28 p.c.; lumber, 50 p.c.; pulp wood, 45 p.c.; pulp and paper, 30 p.c.; other forest products, 45 p.c.; ore, 53 p.c.; merchandise (less than carload), 17 p.c.; and miscellaneous, 28 p.c. The only enumerated commodity to show an increase (17 p.c.) over the two years was coke.

Freight earnings are universally recognized as supplying the great bulk of the revenue of Canadian railways and a falling off here necessarily has a serious effect on earnings. Gross revenues of the more important railways were \$357,674,000 in 1931, as compared with \$449,645,000 in 1930, \$529,200,000 in 1929 and \$555,638,000 in 1928, the record year. Net revenues dropped to \$39,317,000 in 1931 from \$72,785,000 in 1930, \$99,931,000 in 1929 and \$120,041,000 in 1928.

External Trade.—The external trade of Canada has been affected during the past two years, so far as exports are concerned, by the smaller crops since 1928 and the much lower prices obtained for them, as well as by the general trade depression throughout the world. The decline in imports during 1931 has been greater than that of exports, the normal position for Canada in a time like the present, when, with heavy interest payments to make abroad, there is no large inflow of foreign capital taking place. Exports during the calendar year 1931 were \$617,243,000, compared with \$905,460,000 in 1930 and \$1,374,246,000 in 1928, the record year since the war. Imports in the calendar year 1931 amounted to \$628,098,000, compared with \$1,008,479,000 in 1930 and \$1,298,993,000 in 1929, which was the peak year for imports.

Currency and Banking.—Just as a high interest rate with a strained credit position is one of the leading influences which eventually apply the brakes to a period of inflation, precipitating a period of readjustment, so does a low interest rate with easy credit conditions facilitate the completion of that readjustment. A relaxation in credit conditions has usually therefore been a prerequisite to recovery from a period of depression. The deflation of security prices, the decline in commodity prices and reduction of industrial operations which occurred in 1930, by the release of liquid capital, eased credit conditions a great deal and strengthened

the position of the banks. Unfortunately, the financial panic which swept over the world in the latter part of 1931 reversed the trend. With confidence in the stability of financial institutions severely threatened, these institutions were compelled to still further strengthen their position by the liquidation of securities and the curtailment of credit. However, by the end of 1931, the panic had largely passed and the trend to easier credit conditions set in again during the early months of 1932. Current loans, which had reached a high point in October, 1929, at \$1,473,000,000, declined to \$1,150,000,000 in December, 1930, and to \$1,082,000,000 at the end of 1931. Notice deposits were \$1,426,000,000 in December, 1930, and \$1,360,000,000 in December, 1931. Whereas current loans had exceeded notice deposits in October, 1929, there was a surplus of notice deposits amounting to \$277,000,000 at the end of 1930, rising to \$334,000,000 in August, 1931, and receding again to \$278,000,000 in December. During 1931 the gold held against Dominion notes declined from \$93,800,000 to \$64,000,000, and the circulation of Dominion notes declined from \$175,400,000 to \$174,400,000.

As the interest rate on current and call loans in Canada is fairly well stabilized the trend of interest rates may be determined by the prices of high-grade bonds and those of the Ontario Government have been used as representative, its bonds having been subject to income taxation throughout. The yield on Ontario Government bonds reached a high point at 5.00 p.c. in May and September, 1929, and declined to 4.50 p.c. in December, 1930. There was a further decline to 4.40 p.c. from May to September, 1931, after which the rate rose steeply to 5.20 p.c. in December, 1931, and 5.74 p.c. in January, 1932. A declining trend was in evidence again in the next four months of 1932, and a substantial decline in current rates in external money markets since then indicates a return to easy credit conditions once more.

Common Stocks.—The deflation of common stock prices which began in the autumn of 1929 continued throughout 1930 and the decline was carried still further in 1931. The curtailment of industrial operations and the severe decline in wholesale prices reacted against the revenue prospects of Canadian corporations. The stock markets showed some strength in the opening months of 1931, the general index of common stocks rising from 103.1 in December, 1930, to over 110 in February and March, 1931. After that, however, another severe decline set in carrying the index down to 64.6 in October and, after a temporary rise in November, to a still lower point at 54.0 in April, 1932. Stocks of companies abroad and of utilities were the most severely affected.

Summary and Outlook.—The various statistics quoted indicate that production, industry and commerce declined to a low level in 1931, lower in most cases than that which prevailed in 1930 and much below the levels of 1928 and 1929. However, it should be borne in mind that the period from 1927 to 1929 was one of an abnormally high level of activity, resulting, partly, from several years of bountiful crops which were readily absorbed in world markets at profitable prices, and greatly augmented by an unwarranted inflation in the prices of common stocks and other securities. Therefore, comparisons between the year 1931 and those abnormal years are misleading. Furthermore, it is obvious that in the reaction and readjustment after a period of inflation the recession in activity will be carried below the level of the normal trend of growth. In the present case, the period of readjustment has been complicated by abuse and disruption of the normal functions of international trade and finance. It is, therefore, reassuring to see how well the activities

the country have been maintained under these adverse influences. In a period of general depression such as the present, there is a tendency to overlook the course of readjustments tending to correct the disturbing conditions. The downward trend in the prices of many primary commodities appears to have been arrested, those for cereals and minerals having remained fairly stationary for some time now. As already pointed out, there is a definite probability that the large surplus stock of wheat which has overhung the world's markets since the reappearance of Russia as an exporter, will be materially reduced during the coming year. Along with this improvement in the position of primary commodities, the decline in the retail prices of consumers' goods has partially closed the wide gap which had developed between the prices of these two groups, bringing nearer the time when the production of primary commodities may once more be carried on profitably.

At this time the hopes of Canada and of the Empire turn to the coming Imperial Economic Conference. Elaborate preparations are under way in Ottawa and no stone is being left unturned to explore thoroughly all avenues by which inter-imperial trade can be encouraged. It is not too much to believe that the representatives of one quarter of the inhabitants of the world, with much in common and meeting with the determination to work together for the common good, may turn the tide of depression and usher in a new era in Empire and world affairs.

Subsection 2.—Obituary.

1931.—(See also pp. 1111-1112 of the 1931 Year Book.) June 18, Robert A. Pyne, LL.D., Sheriff of Toronto City and former Minister of Education for Ontario. June 12, James Morris, Aubrey, Que., former M.P. for Chateauguay. July 1, John Sharpe, Ottawa, Ont., late Chief Architectural Sculptor, Public Works Department. V. A. L. Davidson, K.C., Middleton, N.S., former M.P. for Annapolis. July 3, H. F. Williams, Ottawa, Ont., Assistant Accountant, Department of Marine. July 28, Rt. Hon. C. J. Doherty, P.C., K.C., Westmount, Que., former Minister of Justice. Aug. 6, Hon. E. M. Farrell, Ottawa, Ont., Senator for Liverpool, N.S., and former Speaker of the Legislature of Nova Scotia. Aug. 24, Hon. S. J. Crowe, Vancouver, B.C., Senator for Burrard, B.C. Sept. 19, Hon. Lincoln Goldie, Guelph, Ont., former Provincial Secretary in the Ferguson Cabinet. Sept. 25, His Honour the Hon. Frank Stanfield, Halifax, N.S., Lieutenant-Governor of Nova Scotia. Oct. 11, Simeon Delisle, Quebec, Que., former M.P. for Portneuf. Oct. 16, R. J. Watson, Burk's Falls, Ont., former M.P. for Parry Sound. Oct. 19, Hon. James Craig, K.C., former Judge of Yukon. Nov. 8, C. J. Simard, former Assistant Provincial Secretary of the Province of Quebec. Nov. 11, Dionis L. Desaulniers, former Chief Law Translator of the House of Commons. Nov. 27, John F. Buckley, St. Paul, Alta., M.P. for Athabaska. Dec. 9, E. L. Newcombe, C.M.G., Ottawa, Judge of the Supreme Court of Canada. Dec. 17, T. M. Jones, Woodstock, N.B., Judge of Probate for Carleton County. Dec. 22, Hon. C. H. Mackintosh, Ottawa, ex-M.P. for Ottawa and former Lieutenant-Governor of N.W.T. Dec. 23, Lieut.-Col. T. G. Loggie, I.S.O., Fredericton, N.B., former Deputy Minister of Lands and Mines for N.B. Dec. 26, J. A. Watson, Ottawa, Chief Dominion Appraiser, Department of National Revenue. Dec. 29, Hon. Charles T. Sutherland, Owen Sound, Ont., Judge of the County and Surrogate Courts of the County of Grey, Ont. Dec. 30, Rt. Hon. Sir George E. Foster, P.C., G.C.M.G., Ottawa, Ont., Senator for Ottawa and former Minister of Trade and Commerce. **1932.**—Jan. 4, Colin S. Cameron, K.C., Owen Sound, Ont., former M.L.A. and Crown Attorney for Grey County. Jan. 6, Hon. Forbes E. Godfrey, M.D., Toronto,

Ont., former Minister of Health and Labour in the Ontario Government. Jan. 13, Hiram A. Calvin, Toronto, Ont., former M.P. for Frontenac. Jan. 15, P. M. Bryce, M.A., M.D., Ottawa, Ont., former Secretary of Ontario Provincial Board of Health and Chief Medical Officer of the Dominion Departments of Health and Indian Affairs. Jan. 16, Hon. John S. Archibald, former Chief Justice of the Superior Court, Montreal. Clement Robitaille, Montreal, M.P. for Maisonneuve. Jan. 10, Robert Cruise, Dauphin, Man., former M.P. for Dauphin, 1917-21. Jan. 20, Jos. A. Renaud, Ottawa, Ont., special legal adviser, Department of Justice. Jan. 28, Wm. Smith, I.S.O., Deputy Keeper of Public Records, Dominion Archives. Feb. 9, Hon. Thomas Crawford, Toronto, former Member of the Ontario Legislature. Feb. 25, O. Carboneau, Quebec, former M.P. for L'Islet, Que. Mar. 6, Hon. J. H. Legris, Hull, Que., Senator for Repentigny, Que. Mar. 6, Dr. Duncan H. McAlister, Sussex, N.B., former M.P. for Kings-Albert, N.B. Mar. 13, F. T. Congdon, K.C., LL.B., B.A., Ottawa, Ont., former Commissioner of the Yukon and ex-M.P. for Yukon Territory. Mar. 14, John C. Glashan, LL.D., F.R.S.C., late Inspector of Public Schools for Ottawa and former Member of the Board of Civil Service Examiners. Mar. 21, J. B. de la B. Taché, Ottawa, Ont., General Librarian of Parliament. Mar. 22, Dr. J. H. Edmison, Brandon, Man., M.L.A. for Brandon. Mar. 26, Thomas Boyd Caldwell, Perth, Ont., former M.P. for North Lanark. Mar. 27, A. A. Aubin, Sturgeon Falls, Ont., former M.L.A. for Nipissing West. Mar. 28, Lawrence Stafford, Ottawa, Ont., Solicitor for the Post Office Department. April 1, Wellington Hay, Listowel, Ont., ex-M.P. for Perth North and former Liberal Leader in the Ontario Legislature. April 18, Alex. McNeill, Wiarton, Ont., former M.P. for North Bruce. April 24, Louis J. Papineau, K.C., Valleyfield, Que., former M.L.A. and M.P. for Beauharnois. May 2, H. B. Adshead, Calgary, Alta., ex-M.P. for Calgary East. May 3, Louis P. M. S. d'Ornano, Ottawa, Ont., Chief Translator of the Department of Marine; F. W. Harcourt, K.C., Toronto, Ont., former official guardian of the High Court of Justice of Ontario. May 8, Hon. E. Lavin Girroir, K.C., Ottawa, Ont., Senator for Antigonish, N.S. May 15, A. King Hodgins, Lucan, Ont., former M.P. for Middlesex. May 17, Hon. Vincent John Paton, Halifax, N.S., Justice of the Nova Scotia Supreme Court. May 26, Mr. Justice Auguste M. Tessier, of the Quebec Superior Court, Quebec, Que. and former M.L.A. for Rimouski. May 31, John P. Marcellus, Pincher Creek, Alta., former M.L.A. for Pincher Creek.

Section 4.—Canadian Books of 1931.¹

(A)—Books Published in English.²

- Aikin, J. A. *Economic Power for Canada*. Macmillan, Toronto, 1930.
 Banker, J. N. L. *History of Geographical Discovery and Exploration*. Clark. Irwin, Toronto, 1931.
 Bell, J. M. *Far Places*. Macmillan, Toronto, 1931.
 Brady, J. W. *Dr. Barnardo*. Nelson, Toronto, 1931.
 Canadian Society of Graphic Art. *Canadian Graphic Art Year Book*. Ryerson, Toronto, 1931.
 Cruikshank, E. A. ed. *Correspondence of Lieut.-Governor John Graves Simcoe with Allied Documents Relating to His Administration of the Government of Upper Canada*. Ont. Hist. Soc., Toronto, 1931.

¹ A few books published late in 1930 but not reviewed until 1931 are included. Works of fiction are not usually included.

² Selected from a list compiled by Miss G. S. Lewis, Librarian, Dominion Bureau of Statistics.

- ruikshank, E. A. *Memoir of Colonel the Honourable James Kerby, His Life and Letters.* Welland Co. Hist. Soc., Welland, 1931.
- uthbertson, G. A. *Freshwater. History of Shipping on the Great Lakes.* Macmillan, Toronto, 1931.
- afoe, J. W. *Clifford Sifton in Relation to His Times.* Macmillan, Toronto, 1931.
- avies, Blodwen. *Storied York, Toronto Old and New.* Ryerson, Toronto, 1931.
- eacon, W. A. and Reeves, Wilfred. *Open House.* Graphic, Ottawa, 1931.
- enison, Merrill. *Henry Hudson and Other Plays.* Ryerson, Toronto, 1931.
- orsey, G. A. *Man's Own Show: Civilization.* Musson, Toronto, 1931.
- Doughty, A. G. and Lanctot, Gustave. *Cheadle's Journal of a Trip Across Canada, 1862-3.* Graphic, Ottawa, 1931.
- ddy, Sherwood. *The Challenge of the East.* Oxford Univ. Pr., Toronto, 1931.
- l'Entremont, H. L. *The Baronnie de Pombcoup and the Acadians.* Herald-Telegram, Yarmouth, 1931.
- ay, C. R. *Youth and Power: The Diversions of an Economist.* Longmans, Toronto, 1931.
- Foster, Mrs. W. G. *The Mohawk Princess: Being Some Account of the Life of Tekalion-Wake.* Lions Gate Pub. Co., Vancouver, 1931.
- Gaither, Frances. *The Fatal River: The Life and Death of La Salle.* Holt, New York, 1931.
- Gray, Edward F. *Leif Erikson, Discoverer of America.* Oxford Univ. Pr., Toronto, 1930.
- Harris, S. E. *Monetary Problems of the British Empire.* Macmillan, Toronto, 1931.
- Innis, H. A. *Peter Pond, Fur Trader and Adventurer.* Irwin and Gordon, Toronto, 1931.
- Kennedy, W. P. M. and Wells, D. C. *The Law of the Taxing Power in Canada.* University Press, Toronto, 1931.
- Langstone, R. W. *Responsible Government in Canada.* Dent, London.
- Laut, A. C. *Cadillac, Knight Errant of the Wilderness, Founder of Detroit, Governor of Louisiana from the Great Lakes to the Gulf.* Bobbs-Merrill, Indianapolis, 1931.
- Lemieux, L. J. *Governors General of Canada, 1608-1931.* King's Printer, Quebec, P.Q.
- Le Bourdais, D. M. *Northward: On the New Frontier.* Graphic, Ottawa, 1931.
- Macbeth, Madge. *Over the Gangplank to Spain.* Graphic, Ottawa, 1931.
- MacBeth, R. G. *Sir Augustus Nanton.* Macmillan, Toronto, 1931.
- McDougall, William. *World Chaos: The Responsibility of Science.* Musson, Toronto, 1931.
- MacIntosh, C. H. *Attune with Spring in Acadie.* Mrs. MacIntosh, Halifax, 1931. (About birds.)
- Mackintosh, W. A., Curtis, C. A. and Taylor, K. W. *Statistical Contributions to Canadian Economic History.* Macmillan, Toronto, 1931.
- MacMechan, Archibald. *Red Snow on Grand Pré.* McClelland and Stewart, Toronto, 1931.
- Middleton, J. E. *Romance of Ontario.* Romance of Canada Series, 1931.
- Nute, G. L. *The Voyageur.* Appleton, New York, 1931.
- Palmer, Howard. *Edward W. D. Holway: A Pioneer of the Canadian Alps.* Univ. of Minn. Pr., Minneapolis, 1931.
- Pinkerton, R. E. *The Gentlemen Adventurers: Hudson's Bay Company.* McClelland, Toronto, 1931.

- Pollard, W. C. *Life on the Frontier*. Arthur H. Stockwell, London, (*circa*) 1931.
- Rhodenizer, V. B. *A Handbook of Canadian Literature*. Graphic, Ottawa, 1930.
- Robbins, J. E. *Hydro-Electric Development in the British Empire*. Macmillan, Toronto, 1931.
- Ross, P. D. *Retrospects of a Newspaper Person*. Oxford University Press, Toronto, 1931.
- Silverman, H. A. *Taxation*. Macmillan, Toronto, 1931.
- Stowell, Oliver. (pseud.) *If I were King of Canada*. Dent, Toronto, 1931.
- Topp, C. B. *History of the 42nd Battalion*. Gazette Pr. Co., Montreal, 1931.
- Tricoche, G. N. *Rambles Through the Maritime Provinces of Canada: A Neglected Part of the British Empire*. A. H. Stockwell, London.
- Tyrell, J. B. ed. *Documents Relating to the Early History of Hudson Bay*. Champlain Society, Toronto, 1931.
- Webster, J. C. ed. *Journal of Jeffery Amherst Recording the Military Career of General Amherst in America from 1758 to 1763*. Ryerson, Toronto, 1931.
- Weigall, Arthur. *Life and Times of Marc Antony*. Allen, Toronto, 1931.
- Woodley, E. C. *Legends of French Canada*. Nelson, Toronto, 1931.
- Writer's Club of Toronto, comp. *Canadian Writer's Market Survey*. Graphic, Ottawa, 1931.

(B)—Books Published in French.¹

- Auclair, abbé Elie-J. *Les de Jordy de Cabanac—Histoire d'une famille noble au Canada*. Beauchemin, Montreal.
- Auclair, abbé Elie-J. *Le Curé Labelle*. Librairie Beauchemin, Montreal.
- Beaulieu, Germain. *Nos Immortels*. Editions Albert Lévesque, Montreal.
- Benoit, Josaphat. *Rois ou esclaves de la machine*. Alfred Carrier, Montreal.
- Bédard, Avila. *L'arbre et la Forêt*, Paris.
- Croff, Mme E. *Nos ancêtres à l'œuvre à la Rivière-Ouelle*. Editions Albert Lévesque, Montreal.
- Dantin, Louis. *La Vie en rêve*. Edition Albert Lévesque, Montreal.
- Daviault, Pierre-A. *L'Expression juste en traduction*. Editions Albert Lévesque, Montreal.
- D'Hauterive, L. *Le blé au Canada: conservation et transport*. Paris.
- Dupuy, Pierre. *André Laurence, Canadien-français*. Paris.
- Fontanel, R. P. Pierre. *L'Industrie Chimique et le Canada*. Montreal.
- Frémont, Donatien. *Mgr. Taché et la naissance du Manitoba*. La Liberté, Winnipeg.
- Frémont, Donatien. *Sur le ranch Constantin-Weyer*. La Liberté, Winnipeg.
- Gravel, abbé Albert. *Histoire du Lac Mégantic*. La Tribune, Sherbrooke.
- Groulx, abbé Lionel. *L'enseignement français au Canada, tome I, dans le Québec*. Editions Albert Lévesque, Montreal.
- Glossaire du parler français au Canada. . . par la Société du parler français. L'Action Sociale, Quebec.
- Lapalice, Ovide-M. H. *Histoire de la Seigneurie Massue*.
- Laureys. *Etudes économiques*. Beauchemin, Montreal.
- La Roncière, Charles de. *Jacques Cartier et la découverte de la Nouvelle-France*. Paris.
- L'Heureux, Eug. *La participation des Canadiens-Français à la vie économique du Canada*. Chicoutimi.
- LeFranc, Marie. *Au pays canadien-français*. Paris.
- Magnan Horm. *Charles Huot et sa vie*. Quebec.
- Masson, Raymond. *Généalogie des familles de Terrebonne depuis le 19 août 1727 au 30 décembre 1872*. Thérien Frères, Montreal.

¹ This list has been prepared by Omer Chaput, Chief Translator, Dominion Bureau of Statistics.

- cart, Et. L'effort persévérant de Champlain. Paris.
- ctvin, Damase. Plaisant pays de Saguenay. L'Eclaireur, Beauceville, Que.
- y, P. de G. Papier terrier de la Cie des Indes occidentales. L'Eclaireur, Beauceville, Que. Inventaire des procès-verbaux des Grands Voyers. L'Eclaireur, Beauceville, Que.
- nt-Pierre, Arthur. L'Œuvre des Congrégations religieuses dans la province de Québec. Editions de la Bibliothèque Canadienne, Montreal.
- lbois, J. Un pays neuf: l'Ouest canadien. Librairie Valois, Paris.

Section 5.—Extracts from the Canada Gazette—Official Appointments, Commissions, etc.

NOTE.—This list is in continuance of that at pp. 1114-24 of the 1931 Year Book.

Lieutenant-Governors, 1931.—July 18, John William Fordham Johnson, q., of Vancouver, in the Province of British Columbia; to be Lieutenant-Governor of the said Province of British Columbia, succeeding the Honourable Robert Randolph Bruce. Oct. 5, Walter Harold Covert, Esq., K.C., of Dartmouth, in the Province of Nova Scotia; to be Lieutenant-Governor of the said Province of Nova Scotia in the room and stead of the Honourable Frank Stanfield, deceased.

Cabinet Ministers, 1932.—Feb. 3, Rt. Hon. Arthur Meighen, P.C., to be Member of the Administration and Minister without Portfolio. Feb. 3, Hon. Edgar Nelson Rhodes, P.C., to be Minister of Finance. Feb. 3, Hon. Wesley Ashton Gordon, P.C., to be Minister of Labour and Minister of Mines.

Senators, 1931.—July 6, Arthur Marcotte, K.C., Ponteix, Sask., Patrick Burns, Calgary, Alta. Sept. 4, Alexander Duncan McRae, C.B., Vancouver, B.C. **1932.**—Feb. 3, Rt. Hon. Arthur Meighen, K.C., Toronto, Ont. Feb. 3, Hon. Charles Colquhoun Ballantyne, Alma, Que. Feb. 3, John Alexander Macdonald, St. Peters, Cape Breton, N.S., William Henry Dennis, Halifax, N.S. May 3, W. L. McDougald resigned from the Senate following the Beauharnois inquiry.

New Members of the House of Commons, Seventeenth Parliament, 1931.—Aug. 10, Charles Bourgeois, elected for Three Rivers-St. Maurice, Que. Humphrey S. Mitchell elected for Hamilton East, Ont. **1932.**—Mar. 21, P. G. Davis elected for Athabaska, Alberta. April 12, Hon. Geo. P. Jones resigned his seat.

Commissioners, 1931.—June 8, Henri St. Jacques, barrister, Ottawa, Ont.; to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against Government employees as may be referred to him and to report the result of such inquiry. July 8, Jean Désy, Esq., Counsellor to the Canadian Minister to France; to be a Commissioner to administer oaths, take and receive affidavits, declarations and affirmations in France in or concerning any proceedings had or to be had in the Supreme Court of Canada and in the Exchequer Court of Canada, and to administer and take such other oaths, affidavits, declarations and affirmations as may be competent for His Excellency in Council to authorize him to administer, take or receive in France. July 21, Stephen B. Peacock, of the City of Montreal, Que., Professor of Economics, McGill University, David W. Robb, of the City of Amherst, N.S., manufacturer, and John F. Sowards, of the City of Kingston, Ont., merchant; to be Commissioners to inquire into the feasibility of constructing a canal across the Isthmus of Chignecto to connect the waters of the Bay of Fundy with the waters of the Gulf of St. Lawrence with special reference to trade facilities as it would affect Canada generally and the Maritime

Provinces in particular. Also to report on the power possibilities and the probable construction requirements and equipments for such a canal. Aug. 13, The Hon. Mr. Justice Charles Percy Fullerton, of the Court of Appeal of the Province of Manitoba; to be Chairman of the Board of Railway Commissioners for Canada. Sept. 1, S. A. Dickson, Esq., K.C., Edmonton, Alta.; to be a Commissioner to investigate such charges of political partizanship against employees of the Dominion Government in Alberta as may be referred to him. Sept. 18, J. Achille Joli-Coeur, Esq., barrister, Quebec, Que.; to be a Commissioner to investigate such charges as may be referred to him of political partizanship against employees of the Federal Government in the Province of Quebec. Sept. 19, J. C. Langlois, Esq., barrister, Buckingham, Que.; to be a Commissioner to investigate such charges as may be referred to him of political partizanship against employees of the Federal Government in the Province of Quebec. Sept. 21, Arthur Surveyer, Esq., consulting engineer, Montreal, Que.; to be a member of the Commission appointed to investigate the feasibility of a canal across the Isthmus of Chignecto, *vice* Prof. Stephen B. Leacock, resigned. Oct. 13, Dr. Alexander W. Brodie of Prince Albert, Sask. to be a Commissioner under Part I of the Inquiries Act, to inquire into and investigate all the circumstances surrounding an accident to one Guy Benning who was injured in an accident May 19, 1928. Oct. 20, Col. R. T. D. Aitken, Newcastle, N.B.; to be a Commissioner to investigate such charges as may be referred to him of political partizanship against employees of the Dominion Government in New Brunswick. Nov. 21, J. C. Kelley, Esq., Postmaster at Windsor, Ont.; to be a Commissioner to administer Oaths of Allegiance and of Office to Post Office employees at Windsor. Nov. 20, The Rt. Hon. Lord Ashfield, of the City of London, England. The Rt. Hon. Lyman Poore Duff, P.C., of the City of Ottawa, Ont., Sir Joseph V. Flavelle, Bart., of the City of Toronto, Ont., Beaudry Leman, C.E., of the City of Montreal, Que., Leonor Fresnel Loree, C.E., of the City of New York, U.S.A., Walter Charles Murray, LL.D., of the City of Saskatoon, Sask., and John Clarence Webster, M.D., of Shediac, N.B.; to be a Commission for the purpose of considering the whole question of Canadian transportation with all the powers vested in, or which could be conferred on Commissioners under the Inquiries Act, and that the Rt. Hon. Lyman Poore Duff, P.C., shall be Chairman of the Commission. Nov. 27, The Hon. Aubin Edmond Arseneault, Assistant Justice of the Supreme Court of Prince Edward Island and Vice Chancellor and the Hon. Albert C. Saunders, Assistant Justice and Master of the Rolls; to be Commissioners *per dedimus potestatem* under the Great Seal of Canada, to administer the Oath of Allegiance to all who hold or may hold any office or place of trust or profit in Prince Edward Island and swear other oaths as may from time to time be prescribed by any law or statute. Dec. 16, François Albert Labelle, Hull, Que.; to be a member of the Board of Railway Commissioners for Canada and to be Deputy Chief Commissioner of the Board. Dec. 16, George A. Stone, Moncton, N.B.; to be a member of the Board of Railway Commissioners for Canada. 1932.—Jan. 8, Daniel Mullin, K.C., of Saint John, N.B.; to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship against employees of the Dominion Government in New Brunswick as may be referred to him. Jan. 27, Hon. Horace Harvey of Edmonton, Chief Justice of the Supreme Court of Alberta; to be a Commissioner to inquire into and report upon all matters, acts or things of whatsoever nature or kind arising out of the alleged loss of the sailing vessel *Gypsum Queen*, said vessel have been torpedoed and sunk by the enemy on July 31, 1915, off the coast of Ireland. Jan. 28, Hon. Albert Freeman Ewing, a Judge of the Trial Division of the Supreme Court of the Province of Alberta; to be a Commissioner to investigate

whether or not the Canadian Performing Right Society, Limited, is complying with the terms and conditions of the Copyright Amendment Act, 1931, in its relation to certain radio broadcasting stations in Alberta. Feb. 23, Lt.-Colonel George Gillias Vanier, D.S.O., M.C., London, England; to be a Commissioner to administer oaths, receive affidavits, declarations and affirmations in England concerning all proceedings had or to be had in the Supreme Court of Canada and to administer, take and receive such oaths, affidavits, declarations and affirmations as it may be competent for His Excellency the Governor General in Council to authorize him to do in England. Feb. 24, Hon. Sir. F. W. G. Haultain, Chief Justice of Saskatchewan; to be a Commissioner to inquire into certain allegations as to the incapacity of His Honour Judge Dickson, of the District of Humboldt, Sask., to properly discharge his judicial duties. Feb. 25, C. Jackson Booth, Esq., Ottawa, Ont.; to be a Member of the Federal District Commission. Mar. 4, J. H. Howden, Esq., K.C., of Neepawa, Man.; to be a Commissioner to investigate certain complaints made against John F. May of the Wardens Staff, Riding Mountain National Park, and against Cope Mason, a temporary employee in the said Park. April 20, Lawrence Yeomans Cairns, Esq., Edmonton, Alta., barrister-at-law; to be a Commissioner, pursuant to Part I of the Inquiries Act, to investigate such charges of political partizanship as may be preferred against Government employees at the Edmonton Elevator, Province of Alberta. May 6, Max Thompson Stewart, Esq., Assistant Trade Commissioner; to administer oaths and to take and receive affidavits, etc., in Australia in connection with proceedings in the Supreme and District Courts of Canada and such other oaths, etc., as it may be competent for the Governor General in Council to authorize him to administer or receive in Australia.

Official Appointments, 1931.—June 24, Professor Fred Landon, of London, Ont.; to be a Member of the Historic Sites and Monuments Board of Canada in the place of Dr. James H. Coyne, of St. Thomas, resigned. Francis C. C. Lynch, M.E.I.C., Director of the National Development Bureau; to be a Member of the Geographic Board of Canada. G. Wilford Bryan, Esq.; to be Secretary of the Historic Sites and Monuments Board of Canada in the place of Major A. A. Pinard, resigned. June 27, The Rt. Hon. Sir William Mulock, P.C., K.C.M.G.; to be Administrator of the Government of the Province of Ontario during the absence on holidays of His Honour the Lieutenant-Governor, the Hon. W. D. Ross, from July 5 to Sept. 5, both dates inclusive. July 3, J. W. Low, Esq., of Cardston, Alta.; to be a Stipendiary Magistrate within Waterton Lakes Park pursuant to the provisions of Subsection 4, Section 5 of the National Parks Acts, c. 33 of the Statutes of 1930. July 4, Major-General James Howden MacBrien; to be Commissioner of the Royal Canadian Mounted Police, effective Aug. 1, 1931. Aug. 10, D. C. Harvey, Esq., Halifax, N.S., Provincial Archivist; to be a Member of the Historic Sites and Monuments Board of Canada, *vice* His Honour Judge W. Crowe, of Sydney, N.S., resigned. Aug. 11, Brig.-Gen. Harold French McDonald, C.M.G., D.S.O. and Lieut.-Gen. Sir Richard Ernest William Turner, V.C., K.C.B., K.C.M.G., D.S.O.; to be Members of the Pension Tribunal for a period of two years dated from Aug. 1, 1931. Sept. 26, R. Byron Horner, Esq., Blaine Lake, Sask.; to be a Director of the Canadian National Railways Company. James Ramsay, Esq., Edmonton, Alta.; to be a Director of the Canadian National Railways Company. Nov. 2, John Douglas Hazen, P.C., K.C.M.G., Chief Justice of the Province of New Brunswick; to be Administrator of the Government of the said Province during the absence of His Honour the Lieutenant-Governor, the Hon. Hugh Havelock

McLean, K.C., from the twelfth day of December, 1931, until his return. Nov. 10, Sir William Mulock, Toronto, Chief Justice of Ontario; to be Administrator of the Government of the Province of Ontario from November 25, during the absence of His Honour the Lieutenant-Governor. Nov. 12, Major J. G. Parmelee, O.B.E., of the City of Ottawa; to be Deputy Minister of Trade and Commerce. Nov. 17, Hon. Maurice Dupré, of the City of Ottawa, Solicitor General of Canada and a Member of His Majesty's Privy Council; to be Acting Secretary of State during the absence of the Honourable the Secretary of State of Canada. Nov. 26, Hon. J. A. Mathieson, Chief Justice of the Supreme Court of Prince Edward Island; to be Administrator of the Government of the Province of Prince Edward Island during the absence of His Honour the Lieutenant-Governor, Hon. Charles Dalton, from Nov. 28 for a period of one month. 1932.—Jan. 12, K. I. Daly, solicitor, Department of the Interior; to be a Member of the Council appointed to assist the Commissioner in the administration of the Northwest Territories. Jan. 18, A. M. Narraway, Ottawa, Associate Director of the Topographical Survey and Chief Aerial Surveys Engineer; to be a Member of the Geographic Board of Canada. Feb. 10, Hon. J. E. P. Prendergast, Chief Justice of Manitoba; to be Administrator of the Government of the Province of Manitoba in the absence of His Honour the Lieutenant-Governor, from Feb. 10 to Mar. 16, both dates inclusive. Feb. 18, Charles Duquette, Esq., Montreal, Que.; to be a Member of the Canadian Farm Loan Board, *vice* Beaudry Leman, Esq., whose term has expired. Feb. 29, Kenneth Robinson Daly, of Ottawa, solicitor, Department of the Interior and Joseph William Lorne Turner, of Ottawa, Chief Clerk, Dominion Lands Administration; to be Members of the Advisory Board on Wild Life Protection. Mar. 16, The Hon. Horace Harvey, Chief Justice of Alberta; to be Administrator of the Government of the said Province of Alberta during the absence of the Lieutenant-Governor from April 1 to May 12, 1932, both dates inclusive. Mar. 17, The Hon. James Emile Pierre Prendergast, Chief Justice of Manitoba; to be Administrator of the Government of the Province of Manitoba for the further period from 16th instant to the 1st April, 1932, inclusive, during the extended absence of the Lieutenant-Governor. Mar. 29, Arnold W. Duclos, Esq., B.C.L., K.C., Ottawa, Ont.; to be Registrar of the Exchequer Court of Canada. Mar. 30, Austin L. Cumming, B.Sc., D.L.S., Ottawa, Ont., Chief Mining Inspector of the Department of the Interior; to be a Member of the Council appointed to assist the Commissioner in the administration of the Northwest Territories. Mar. 30, William J. Christie, Esq., Winnipeg, Man., Financial Broker; to be a Director of the Canadian National Railways Company. May 12, Major David Livingston McKeand, Ottawa, Ont., Secretary of the Northwest Territories Council of the Department of the Interior; to be Officer in charge of the Government expedition to the Arctic Archipelago on the Steamship *Ungava*, *vice* Major Lachlin Taylor Burwash who is retiring. May 18, Dr. O. Klotz, University of Toronto, Toronto, Ont.; Dr. Frank Allen, University of Manitoba, Winnipeg, Man.; John T. Foss, Esq., Montreal, Vice-President of the Trades and Labour Congress of Canada; Professor H. R. Christie, University of British Columbia, Vancouver, B.C.; Dr. F. M. G. Johnson, McGill University, Montreal, Que.; to be Members of the National Research Council for the period ending Mar. 31, 1934. May 18, Father Vachon, Laval University, Quebec, Que.; Dr. John Stephens, University of New Brunswick, Fredericton, N.B.; Dr. A. S. Mackenzie, Halifax, N.S.; Dr. Robert Wallace, University of Alberta, Edmonton, Alta.; to be Members of the National Research Council for the period ending Mar. 31, 1935.

Honorary Aides-de-Camp, 1931.—His Excellency the Governor General has been pleased to make the following appointments, *viz.*: Col. J. A. Cross, D.S.O., V.D., R.O., Regina, Sask. Col. P. J. Montague, C.M.G., D.S.O., M.C., D., 6th Mtd. Bde., Winnipeg, Man. Col. W. W. Foster, D.S.O., V.D., 23rd Inf. Bde., Vancouver, B.C. Lt.-Col. A. D. Wilson, D.S.O., V.D., 2nd Res. Bn. Seaforth H. of Can., Vancouver, B.C. Lt.-Col. E. R. Knight, V.D., The Calgary Regt., Calgary, Alta. Lt.-Com. E. A. Brock, Retired List, R.C.N.V.R., Winnipeg, Man. Sqdn. Leader (Hon. Wing Commander) D. R. MacLaren, D.S.O., M.C., D.F.C., R.C.A.F. Reserve, Vancouver, B.C. Major W. Bapty, 1st Bn. Canadian Scottish, Victoria, B.C. *Honorary Physician*.—Col. J. A. Gunn, C.B., O.B.E., V.D., Reserve List, C.A.M.C., Winnipeg, Man.

Judicial Appointments, 1931.—June 8, The Hon. Joseph Andrew Chisholm, Assistant Judge of the Supreme Court of Nova Scotia; to be Chief Justice of the Supreme Court of Nova Scotia, *vice* the Hon. Robert Edward Harris, deceased. Sept. 18, Paul St. Germain, K.C., Esq., Outremont, Que.; to be a Puisne Judge of the Court of the King's Bench in and for the said Province of Quebec, *vice* the Hon. Mr. Justice Victor Allard, deceased. Oct. 9, Hon. William Lorimer Hall, B.A., LL.B., K.C., Attorney-General of Nova Scotia; to be a Puisne Judge of the Supreme Court of Nova Scotia. Dec. 9, The Hon. Thibaudeau Rinfret, one of the Judges of the Supreme Court of Canada; to be a Deputy of His Excellency the Governor General. Dec. 17, The Hon. George Black, Dawson, Yukon, Barrister-at-law and Speaker of the House of Commons; to be one of His Majesty's Counsel learned in the law. Dec. 22, Walter T. Robb, Esq., K.C., Dunville, Ont.; to be Judge of the County Court of the County of Dufferin and a local Judge of the High Court Division of the Supreme Court of Ontario. **1932.**—Jan. 13, Geo. W. Morley, K.C., Collingwood, Ont.; to be Judge of the County Court of the County of Grey, Province of Ontario, effective from Feb. 1, 1932; also that he be appointed Local Judge of the High Court Division of the Supreme Court of Ontario during his tenure of office. Albert B. Currey, K.C., North Bay, Ont.; to be Judge of the District Court of the provisional judicial district of Manitoulin, Province of Ontario, effective from Feb. 1, 1932; also that he be appointed a Local Judge of the High Court Division of the Supreme Court of Ontario during his tenure of office. Jan. 23, Wesley S. West, K.C., Woodstock, Ont.; to be Judge of the County Court of the County of Haldimand, to take effect on Mar. 1, 1932; and that he be appointed a Local Judge of the High Court Division of the Supreme Court of Ontario during his tenure of office. Feb. 1, Eugene Read Engers, Esq., K.C., Montreal, Que.; to be a Puisne Judge of the Exchequer Court of Canada. Mar. 1, Arthur Roberts, Esq., Bridgewater, N.S.; to be Judge of the County Court District Number Two, comprising the Counties of Lunenburg, Queens and Shelburne, in the said Province. Mar. 11, Percival John Montague, Esq., C.M.G., D.S.O., M.C., Winnipeg, Man.; to be a Judge of His Majesty's Court of King's Bench for Manitoba. Mar. 11, Stephen Elsworth Richards, Esq., Winnipeg, Man.; to be a Judge of the Court of Appeal for Manitoba. Mar. 29, Trevor Hugo Grout, Esq., Arnprior, Ont.; to be Judge of the County Court of the County of Peel in the Province of Ontario effective May 1; also to be a Local Judge of the High Court Division of the Supreme Court of Ontario. April 19, Mr. Mackay Meikle, Esq., Fort Smith, Northwest Territories; to be a Justice of the Peace in and for the Northwest Territories.

Day of General Thanksgiving.—Monday, Oct. 12, 1931, was appointed by proclamation as a "day of general thanksgiving to Almighty God for the many blessings with which Canada has been favoured this year".

APPENDIX I.

I.—Immigration in the fiscal year 1931-32.

During the fiscal year ended Mar. 31, 1932, the immigrants into Canada classified as in the summary table appearing on p. 148 of this volume, were as follows: From U.K., 7,088; from U.S.A., 14,297; from other countries, 4,367; total 25,752.

Canadians returned from the United States during the fiscal year ended Mar. 31, 1932, classified as in the table on p. 161, were as follows: Canadian-born, 17,691; British-born with Canadian domicile, 1,069; naturalized Canadian citizens, 651; total, 19,411.

2.—External Trade of Canada in the fiscal year 1931-32.

Preliminary figures of the external trade of Canada for the fiscal year ended Mar. 31, 1932, show a grand total trade of \$1,166,083,261, as compared with a figure of \$1,723,640,743 in the preceding year, or a decrease of \$567,557,482. The decrease in the imports was \$328,094,951. Domestic exports decreased by \$223,398,365, and foreign exports by \$6,064,166. Figures by industrial groups are given in the following table, where the figures of imports and exports may be compared with the totals given for previous years in the tables on pp. 416, 424-5 of this volume.

Imports and Exports of Canada, fiscal year ended Mar. 31, 1932.

Industrial Group.	Imports.
	\$
Agricultural and vegetable products.....	128,621.
Animals and animal products.....	24,568.
Fibres, textiles and textile products.....	83,879.
Wood, wood products and paper.....	32,008.
Iron and its products.....	98,811.
Non-ferrous metals and their products.....	34,301.
Non-metallic minerals and products.....	102,147.
Chemicals and allied products.....	30,731.
Miscellaneous commodities.....	43,454.
Total, Imports.....	578,517.
Total, Dutiable Imports.....	388,511.
Total, Free Imports.....	190,005.
Duty Collected.....	113,756.
	\$
Agricultural and vegetable products.....	204,398.
Animals and animal products.....	68,795.
Fibres, textiles and textile products.....	5,512.
Wood, wood products and paper.....	175,740.
Iron and its products.....	15,462.
Non-ferrous metals and their products.....	69,072.
Non-metallic minerals and products.....	13,456.
Chemicals and allied products.....	10,535.
Miscellaneous commodities.....	13,367.
Total, Domestic Exports.....	576,344.
Total, Foreign Exports.....	11,221.
Total, Exports.....	587,565.
Grand Total, External Trade.....	1,166,083.

APPENDIX II.

Population Statistics of the Census of 1931.

Note.—Subsequent to the preparation of the material in Chapter IV, a revision of the population figures of the Northwest Territories was found necessary. This in turn made a change in the total figures for Canada and in this Appendix the necessary adjustments have been made. The final figures of population for the Northwest Territories are 9,723 in place of 1,133, and for Canada, 10,376,786 in place of 10,374,196.

Section 1.—Sex Distribution.

Throughout the older countries of the world there is usually found an excess female over male population, more especially as in most of these countries the census is taken on a *de facto* instead of, as in Canada, on a *de jure* basis. The causes of this excess of female population are: (1) the normally higher rate of mortality among males; (2) the greater number of males who travel; (3) the effects of war; (4) the employment of males in the army, navy and merchant marine; and (5) the preponderance of males among emigrants. In the newer countries of the world, however, the preponderance of males among immigrants results in a general excess male over female population. These phenomena are exemplified for both the older and the newer countries in Table 3.

In Canada there has been an excess of male population from the commencement of its history, the first census of 1666 showing 2,034 males to only 1,181 females. As the colony increased in numbers, the disproportion between the sexes became smaller, more especially since the French-Canadian population after about 1700 was not reinforced by immigration from the old world. In 1784, when the English-speaking immigration to Canada for purposes of settlement was commencing, there were 54,064 males and 50,759 females in the country. At the middle of the nineteenth century, there were 449,967 males to 440,294 females in Lower Canada, and 499,067 males to 452,937 females in the more newly-settled Upper Canada, and since Confederation the same phenomenon of considerable excess of males has occurred throughout the growing Northwest. The great immigration of the first decade of the present century resulted in raising what is called the "masculinity" of the Canadian population (*i.e.*, the excess of males over females per 100 of population) to the highest point in recent history, *viz.*, 6.07 p.c. in 1911. The Great War, however, both checked immigration and took some 60,000 young Canadian male lives as its toll, with the result that at the census of 1921 the masculinity of our population was only 3 p.c.—515 males to 485 females per 1,000 of population.

In 1931, however, there were 518 males to 482 females for Canada as a whole. It is interesting to note that the masculinity of the population has increased in the eastern provinces and decreased in the western ones, where it was formerly greatest. In Table 1 statistics are presented, showing the number of males and females in each of the provinces and territories at each census since 1871, while Table 2 shows the proportions of the sexes and excess of males per 1,000 of population. The statistics of Table 3 show the position of Canada among other countries of the world in regard to masculinity.

1.—Sex Distribution of the People of Canada, by Provinces, 1871-1931.

Province.	1871.		1881.		1891.	
	Male.	Female.	Male.	Female.	Male.	Female.
Prince Edward Island.....	47,121	46,900	54,729	54,162	54,881	54,190
Nova Scotia.....	193,792	193,008	220,538	220,034	227,093	223,100
New Brunswick.....	145,888	139,706	164,119	157,114	163,739	157,520
Quebec.....	596,041	595,475	678,175	680,852	744,141	744,330
Ontario.....	828,590	792,261	978,554	948,368	1,069,487	1,044,330
Manitoba.....	12,864	12,364	35,123	27,137	84,342	68,160
Saskatchewan.....	—	—	—	—	—	—
Alberta.....	—	—	—	—	—	—
British Columbia.....	20,694	15,553	29,503	19,956	63,003	35,177
Yukon Territory.....	—	—	—	—	—	—
Northwest Territories.....	24,274	23,726	28,113	28,333	53,785	45,180
Canada.....	1,869,264	1,819,993	2,188,854	2,135,956	2,460,471	2,372,700

Province.	1901.		1911.		1921.		1931. ¹	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Females
P.E.I.....	51,959	51,300	47,069	46,659	44,887	43,728	45,392	42,860
N.S.....	233,642	225,932	251,019	241,319	266,472	257,365	263,104	249,760
N.B.....	168,639	162,481	179,867	172,022	197,351	190,525	208,620	199,550
Que.....	824,454	824,444	1,012,815	992,961	1,180,028	1,181,171	1,447,124	1,427,110
Ont.....	1,096,640	1,086,307	1,301,272	1,226,020	1,481,890	1,451,772	1,748,844	1,682,830
Man.....	138,504	116,707	252,954	208,440	320,567	289,551	368,065	332,070
Sask.....	49,431	41,848	291,730	200,702	413,700	343,810	499,935	421,880
Alta.....	41,019	32,003	223,792	150,503	324,208	264,246	400,199	331,140
B.C.....	114,160	64,497	251,619	140,861	293,409	231,173	385,219	309,040
Yukon.....	23,084	4,135	6,508	2,004	2,819	1,338	2,825	1,440
N.W.T.....	10,176	9,953	3,350	3,157	4,129	3,859	5,214	4,500
Canada.....	2,751,708	2,619,607	3,821,995	3,384,648	4,529,945²	4,258,538	5,374,541	5,002,230

¹ Preliminary figures.² Includes 485, Royal Canadian Navy.

2.—Proportion of Sexes per 1,000 of Population in Canada, by Provinces, 1871-1931.

Province.	1871.			1881.			1891.		
	Males.	Fe-males.	Excess of Males over Females.	Males.	Fe-males.	Excess of Males over Females.	Males.	Fe-males.	Excess of Males over Females.
Prince Edward Island..	501	499	2	503	497	6	504	496	
Nova Scotia.....	500	500	—	501	499	2	504	496	
New Brunswick.....	511	489	22	511	489	22	510	490	
Quebec.....	500	500	—	499	501	—2	500	500	
Ontario.....	511	489	22	508	492	16	506	494	
Manitoba.....	510	490	20	564	436	128	553	447	106
Saskatchewan.....	—	—	—	—	—	—	—	—	—
Alberta.....	—	—	—	—	—	—	—	—	—
British Columbia.....	571	429	142	597	403	194	642	358	284
Yukon Territory.....	—	—	—	—	—	—	—	—	—
Northwest Territories..	506	494	12	498	502	—4	543	457	86
Canada.....	507	493	14	506	494	12	509	491	18

Province.	1901.			1911.			1921.			1931. ¹		
	Males.	Fe-males.	Excess of Males over Females	Males.	Fe-males.	Excess of Males over Females	Males.	Fe-males.	Excess of Males over Females	Males.	Fe-males.	Excess of Males over Females
P.E.I.....	503	497	6	502	498	4	507	493	14	516	484	32
N.S.....	508	492	16	510	490	20	509	491	18	513	487	26
N.B.....	509	491	18	511	489	22	509	491	18	511	489	22
Que.....	500	500	—	505	495	10	500	500	—	503	497	6
Ont.....	502	498	4	515	485	30	505	495	10	510	490	20
Man.....	543	457	86	548	452	96	525	475	50	526	474	52
Sask.....	541	459	82	592	408	184	546	454	92	542	458	84
Alta.....	562	438	124	598	402	196	551	449	102	547	453	94
B.C.....	639	361	278	641	359	282	559	441	118	555	445	110
Yukon.....	848	152	696	765	235	530	678	322	356	668	332	336
N.W.T.....	506	494	12	515	485	30	517	483	34	552	464	88
Canada.....	512	488	24	530	470	60	515	485	30	518	482	36

¹ Preliminary figures.

3.—Masculinity of the Population of Various Countries.

NOTE.—The minus sign (—) indicates a deficiency of males.

Country.	Year.	Excess of Males over Females in each 100 Population.	Country.	Year.	Excess of Males over Females in each 100 Population.
Argentine Republic.....	1928	6.57	Sweden.....	1928	—1.74
Canada.....	1931	3.6	Denmark.....	1925	—2.39
Egypt.....	1921	2.88	Austria.....	1920	—2.4
New Zealand.....	1931	2.00	Spain.....	1920	—3.07
Australia.....	1931	1.88	Northern Ireland.....	1926	—3.2
Union of South Africa ¹	1931	1.8	Norway.....	1925	—2.64
United States.....	1930	1.21	Poland.....	1921	—3.37
Japan.....	1928	0.97	German Empire.....	1925	—3.47
Bulgaria.....	1926	0.2	Switzerland.....	1920	—3.60
Chile.....	1920	—0.6	Scotland.....	1931	—3.90
Netherlands.....	1930	—0.62	England and Wales.....	1931	—4.18
Rumania.....	1915	—0.75	Prussia.....	1919	—4.49
Yugoslavia.....	1928	—0.8	France.....	1921	—4.92
Belgium.....	1928	—1.04	Portugal.....	1920	—5.4
Italy.....	1921	—1.37	Russia.....	1920	—9.56
Ireland.....	1920	—1.4			

¹ White population only.

Section 2.—Age Distribution.

The same causes which have in the past rendered the sex distribution of population in Canada somewhat unusual have also affected its age distribution. In the early stages of the settlement of a new colony, men in the prime of life constitute the bulk of the population, and women and children are conspicuous by their absence, so that there will be a disproportionately large male population between the ages of 20 and 50, together with a low birth rate. Later on in the settlement of a new country where there is land and food for all and where the early disproportion of the sexes has been overcome, there is a very high rate of natural increase, and an extraordinarily large proportion of children among the population. Thus in 1871 (see Table 4), no fewer than 287 out of every 1,000 of the population of Canada were children under 10 years of age and over half the total population (526.76 out of every 1,000) were under 20 years of age. But with the growing urbanization of the population, the average age at marriage increased and children came to be regarded as a liability rather than an asset. Thus in 1911, out of every 1,000 of the population, only 231.83 were under 10 years of age and 423.42 under 20 years of age. In 1921, however, 239.68 per 1,000 of the population were under 10 years of age and 434.82 per 1,000 under 20 years. In 1931, according to preliminary census figures, the number of children under 10 years of age had dropped to 212.69 per 1,000 of the population, and of persons under 20 to 416.36 per 1,000.

Table 5 shows the varying age distribution of the population of the different provinces, while Table 6 gives details of the age distribution of the population of the Dominion, by sex, for the census years 1881 to 1931.

Proportion per 1,000 of the Population by Age-Periods, 1871, 1881, 1891, 1901, 1911, 1921 and 1931.

Age Period.	1871.	1881.	1891.	1901.	1911.	1921.	1931. ¹
Under 1 year.....	30.567	28.019	24.922	24.497	25.734	23.859	103.540
1-4 years.....	115.649	108.508	99.963	95.211	97.413	96.486	109.145
5-9 ".....	140.691	128.251	121.242	114.663	108.685	119.334	203.677
10-19 ".....	239.854	227.404	219.712	210.906	191.585	195.138	163.592
20-29 ".....	171.436	175.957	178.080	173.550	189.335	159.041	134.655
30-39 ".....	111.404	113.099	122.079	129.259	141.938	146.246	118.666
40-49 ".....	79.995	83.817	88.441	98.494	100.071	109.480	82.470
50-59 ".....	54.788	58.086	62.360	67.886	69.121	73.080	83.894
60 and over.....	55.128	63.269	70.141	76.396	71.027	74.915	0.610
Not given.....	0.487	13.589	13.059	9.137	5.090	2.421	

¹ Preliminary figures.

5.—Proportion per 1,000 of the Population by Age-Periods by Provinces, 1931, with Totals for 1921.

(Preliminary Figures.)

Province.	0—9 years.	10—19 years.	20—44 years.	45—69 years.	70 years and over.	Age not given.
Prince Edward Island.....	212.47	207.97	308.15	206.52	64.81	0.37
Nova Scotia.....	215.36	214.17	320.93	198.39	50.93	0.22
New Brunswick.....	239.83	219.63	317.24	181.18	41.95	0.17
Quebec.....	245.89	214.21	352.95	157.67	29.05	0.23
Ontario.....	186.68	185.67	373.92	212.28	41.20	0.25
Manitoba.....	203.29	219.27	365.99	185.53	25.72	0.20
Saskatchewan.....	234.80	228.98	353.08	163.81	19.12	0.21
Alberta.....	217.98	210.00	374.07	178.47	19.32	0.16
British Columbia.....	160.06	175.97	377.16	254.66	29.97	2.18
Canada, 1931¹.....	212.68	203.68	360.51	189.54	33.23	0.23
Canada, 1921¹.....	239.68	195.14	365.27	169.38	28.11	2.42

¹ The statistics for Yukon and the Northwest Territories are not given in the table, but are included in the total population of Canada.

6.—Male and Female Population of Canada by Age-Periods, 1881, 1891, 1901, 1911, 1921 and 1931.

Age Periods.	1881.			1891.			1901.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Under 1 year....	61,704	59,473	121,177	61,308	59,149	120,457	66,464	65,116	131,580
1 year.....	50,298	48,288	98,586	52,160	50,833	102,993	62,384	61,203	123,587
2 years.....	65,187	63,069	128,256	65,465	63,898	129,363	65,245	64,182	129,427
3 years.....	62,217	60,455	122,672	63,854	62,047	125,901	64,748	64,158	128,906
4 years.....	60,616	59,144	119,760	63,328	61,563	124,891	65,455	64,030	129,485
Totals, under 5 years.....	300,022	290,429	590,451	306,115	297,490	603,605	324,296	318,689	642,985
5 to 9 years....	281,216	273,446	554,662	297,385	288,605	585,990	311,134	304,765	615,899
10 to 14 "....	259,154	247,728	506,882	279,889	269,287	549,176	295,674	284,665	580,339
15 to 19 "....	237,317	239,281	476,598	258,325	254,412	512,737	280,275	272,228	552,503
20 to 24 "....	211,634	217,771	429,405	237,144	235,913	473,057	256,981	251,823	508,804
25 to 29 "....	165,389	166,236	331,575	194,531	193,115	387,646	216,334	207,651	423,985
30 to 34 "....	131,051	129,538	260,589	163,866	155,724	319,590	188,125	174,942	363,067
35 to 39 "....	115,029	113,515	228,544	139,899	130,551	270,450	172,553	158,673	331,226
40 to 44 "....	97,807	95,537	193,344	118,954	112,685	231,639	152,036	137,822	289,858
45 to 49 "....	86,784	82,364	169,148	100,827	94,992	195,819	125,636	113,550	239,186
50 to 54 "....	72,046	68,762	140,808	87,861	83,565	171,426	106,107	97,857	203,964
55 to 59 "....	57,379	53,027	110,406	66,887	63,089	129,976	82,136	78,535	160,671
60 to 64 "....	52,006	45,354	97,360	62,819	57,403	120,222	72,897	68,156	140,963
65 to 69 "....	36,544	32,052	68,596	44,717	40,172	84,889	54,497	51,176	105,673
70 to 74 "....	26,158	23,453	49,611	32,941	29,906	62,847	39,086	37,294	76,380
75 to 79 "....	16,361	14,649	31,010	20,047	17,864	37,911	24,548	23,248	47,796
80 to 84 "....	9,251	8,307	17,558	10,798	10,151	20,949	13,090	12,740	25,830
85 to 89 "....	3,344	3,151	6,495	4,160	4,390	8,550	4,848	4,990	9,838
90 to 94 "....	987	1,094	2,081	1,360	1,436	2,796	1,356	1,554	2,910
95 to 99 "....	330	379	709	411	437	848	423	538	961
100 and over....	99	110	209						
Not given.....	28,996	29,773	58,769	31,535	31,581	63,116	29,766	19,311	49,077
Totals, Population.	2,188,854	2,135,956	4,324,810	2,460,471	2,372,768	4,833,239	2,751,708	2,619,607	5,371,315

Male and Female Population of Canada by Age-Periods, 1881, 1891, 1901, 1911, 1921 and 1931—concluded.

Age Periods.	1911.			1921.			1931. ¹		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Under 1 year....	93,513	91,946	185,459	105,953	103,731	209,684	-	-	-
1 year.....	87,399	86,002	173,401	103,213	104,575	207,788	-	-	-
2 years.....	90,697	88,943	179,640	105,815	104,152	209,967	-	-	-
3 years.....	89,688	87,730	177,418	108,421	106,214	214,635	-	-	-
4 years.....	86,922	84,643	171,565	108,685	106,891	215,576	-	-	-
Totals, under 5 years....	448,219	439,264	887,483	533,449	524,201	1,057,650	543,028	531,114	1,074,142
5 to 9 years....	395,045	388,207	783,252	528,700	520,061	1,048,761	572,292	560,001	1,132,293
10 to 14 "....	354,911	345,401	700,312	461,320	451,829	913,149	542,761	530,957	1,073,718
15 to 19 "....	351,244	329,129	680,373	403,259	398,559	801,818	525,093	514,170	1,039,263
20 to 24 "....	3,85,855	320,435	706,290	350,984	360,227	711,211	463,644	447,367	911,011
25 to 29 "....	370,494	287,684	658,178	347,645	308,874	656,519	409,914	376,209	786,123
30 to 34 "....	310,339	244,777	555,116	343,263	309,623	652,886	368,042	340,590	708,632
35 to 39 "....	257,875	209,904	467,779	342,313	290,080	632,393	359,011	329,300	688,311
40 to 44 "....	213,018	176,677	389,695	286,470	240,666	527,136	347,663	298,282	645,945
45 to 49 "....	178,715	152,768	331,483	236,896	198,133	435,029	321,462	263,659	585,121
50 to 54 "....	152,718	132,366	285,084	195,141	166,817	361,958	267,284	221,323	488,607
55 to 59 "....	112,952	100,096	213,048	148,137	132,167	280,304	199,133	167,823	366,956
60 to 64 "....	94,318	83,786	178,104	126,400	112,885	239,285	156,876	137,666	294,542
65 to 69 "....	67,626	63,523	131,149	90,621	81,383	172,004	120,688	110,431	231,119
70 to 74 "....	47,807	46,197	94,004	60,581	56,850	117,431	88,579	83,009	171,588
75 to 79 "....	30,266	29,260	59,526	35,584	35,767	71,351	50,016	48,605	98,621
80 to 84 "....	15,550	15,921	31,471	18,137	19,465	37,602	23,876	25,291	49,167
85 to 89 "....	6,184	6,687	12,871	7,142	8,237	15,379	8,665	10,462	19,127
90 to 94 "....	1,693	2,010	3,703	1,800	2,380	4,180	2,051	2,881	4,932
95 to 99 "....	417	502	919	412	565	977	417	656	1,073
100 and over....	62	58	120	90	93	183	74	89	163
Total population....	3,821,995	3,384,648	7,206,643	4,529,945	4,258,538	8,788,483	5,374,541	5,002,245	10,376,786

¹ Preliminary figures. Population under 5 years not separated.

Section 3.—Religions.

The figures in the following tables are preliminary, some slight adjustments having yet to be made in regard to the smaller sects. It will, however, be seen that the largest denomination is the Roman Catholic with 4,098,547 members, or 39.48 p.c. of the population, a gain of 0.98 p.c. over 1921. The United Church, with 2,016,773 members is next with 19.44 p.c. If the 870,496 Presbyterians were added, the 1931 total would be 2,887,269, or 27.83 p.c. as compared with the combined total of 2,599,595 or 25.06 p.c. of Methodists, Presbyterians and Congregationalists in 1921. The Anglicans, with 1,635,269 members, or 15.76 p.c., held third place; in 1921 they had 1,407,994 members, or 16.02 p.c. of the population.

Of the total population of 1931 (10,376,786), 16,044, or 0.15 p.c. did not state their religion, while 55,012, or 0.53 p.c., persons belonging to small sects, were classed as "various" and 20,468, or 0.20 p.c., were classed as "no religion". Of the non-Christian sects, 155,592 or 1.50 p.c. of the total population were Jews, 23,983 or 0.23 p.c. were Confucians, 15,708 or 0.15 p.c. were Buddhists and 4,994 or 0.05 p.c. were pagans, leaving 10,082,395 or 97.19 p.c. of the population of the Dominion classified as belonging to some definitely Christian body.

7.—Religions of the People by

No.	Religion.	Prince Edward Island.	Nova Scotia.	New Brunswick.	Quebec.
	Totals, Population.....	88,038	512,846	408,219	2,874,272
1	Adventist.....	13	1,144	1,064	1,172
2	Anglican.....	5,266	88,709	48,926	149,815
3	Baptist.....	5,066	82,099	83,853	10,000
4	Brethren.....	-	96	336	77
5	Buddhist.....	-	2	3	7
6	Christadelphian.....	9	8	30	2
7	Christian.....	793	720	704	1,172
8	Church of Christ.....	372	816	854	-
9	Confucian.....	3	31	58	1,172
10	Christian Science.....	2	187	126	88
11	Disciples of Christ.....	224	373	487	-
12	Doukhorbor.....	-	-	-	-
13	Evangelical Association.....	3	11	5	4
14	Friends.....	6	9	4	-
15	Greek Catholic.....	41	892	87	4,800
16	Greek Orthodox.....	6	314	74	8,900
17	Holiness Movement.....	-	-	-	200
18	International Bible Students.....	15	438	153	8
19	Jewish.....	19	1,935	1,257	59,700
20	Lutheran.....	76	7,949	967	3,200
21	Mennonite (inc. Hutterite).....	2	1	-	-
22	Mormon.....	-	42	51	4
23	No religion.....	28	316	122	1,100
24	Pagan.....	-	-	-	3
25	Pentecostal.....	27	562	1,766	1,200
26	Plymouth Brethren.....	2	83	43	50
27	Presbyterian.....	14,803	48,945	16,257	59,510
28	Protestant.....	20	372	142	11,200
29	Roman Catholic.....	39,064	161,855	188,007	2,458,280
30	Salvation Army.....	162	2,663	943	1,130
31	United Brethren in Christ.....	-	1	12	-
32	United Church.....	21,979	110,528	61,170	88,200
33	Unitarian.....	17	72	28	79
34	All other (various).....	214	1,215	562	2,100
35	Not given.....	6	458	128	2,020

Provinces, Census 1931.

Ontario.	Manitoba.	Saskatchewan.	Alberta.	British Columbia.	Yukon.	Northwest Territories.	Canada.	No.
431,683	700,139	921,785	731,605	694,263	4,230	9,723	10,376,786	
2,337	925	3,407	4,190	1,783	1	-	16,037	1
764,002	128,323	126,806	112,964	205,007	2,299	3,352	1,635,269	2
171,214	13,483	22,604	30,488	23,391	44	18	443,227	3
7,607	655	1,091	1,183	1,685	-	-	13,410	4
110	48	94	363	14,980	32	-	15,708	5
1,335	92	74	135	365	-	1	2,077	6
4,238	356	1,070	2,290	863	6	182	11,381	7
4,236	989	1,478	1,150	287	-	1	10,213	8
1,581	758	1,228	1,698	17,517	-	-	23,983	9
6,953	1,790	1,041	2,074	5,409	14	2	18,414	10
4,097	146	142	107	68	-	-	5,667	11
7	134	7,950	786	6,033	-	-	14,910	12
17,127	303	2,025	2,128	83	-	1	22,089	13
1,507	66	209	185	267	-	1	2,289	14
28,742	66,671	44,265	37,496	3,509	20	3	186,588	15
16,203	15,757	31,096	26,424	3,252	8	4	102,109	16
2,895	87	533	248	75	-	-	4,100	17
4,446	2,316	3,131	1,237	1,594	-	-	13,419	18
62,088	19,192	5,034	3,663	2,666	2	2	155,592	19
96,957	46,879	113,529	82,409	36,627	239	64	393,950	20
17,580	30,299	31,513	8,282	1,080	-	-	88,765	21
6,141	226	1,607	13,178	648	3	1	21,946	22
3,186	2,514	2,469	2,132	7,783	43	312	20,468	23
1,615	390	1,150	496	66	33	1,206	4,994	24
8,076	3,423	4,841	3,535	2,269	-	-	25,706	25
3,105	587	431	528	1,603	1	-	6,890	26
450,578	55,690	67,943	72,040	84,158	432	140	870,496	27
3,282	1,479	1,727	1,931	2,651	38	361	23,269	28
715,848	122,982	189,703	130,893	87,333	647	3,930	4,098,547	29
16,673	2,220	2,014	2,023	2,801	-	1	30,634	30
1,364	23	66	116	44	-	-	1,633	31
973,649	176,201	243,356	176,588	164,656	352	94	2,016,773	32
1,244	1,178	328	294	491	-	1	4,445	33
26,922	3,429	6,778	7,326	7,153	7	38	55,012	34
4,738	528	1,052	1,025	6,066	9	8	16,044	35

In Table 7 are given for Canada and for the provinces the number of persons accredited to each of 33 specified religions. The numbers of persons stating their preference for each of the principal religious bodies for the census years 1871-1931 are given in Table 8, while corresponding percentage figures are presented in Table 9.

8.—Religions of the People at each Decennial Census, 1871-1931.

Religion.	1871.	1881.	1891.	1901.	1911.	1921.	1931.
Adventist.....	6,179	7,211	6,354	8,058	10,406	14,179	16,354
Anglican.....	494,049	574,818	646,059	681,494	1,043,017	1,407,994	1,685,494
Baptist ¹	239,343	296,525	303,839	318,005	382,720	421,731	443,839
Brethren.....	2,305	8,831	11,637	8,014	9,278	11,580	13,637
Buddhist.....	-	-	-	10,407	10,012	11,281	15,637
Christian.....	-	-	-	7,484	17,264	12,566	11,637
Church of Christ.....	-	-	-	-	-	3,740	10,407
Christian Science.....	-	-	-	2,619	5,073	13,826	18,637
Confucian.....	-	-	-	5,115	14,562	27,114	23,637
Congregationalist.....	21,829	26,900	28,157	28,293	34,054	30,730	-
Disciples of Christ.....	-	20,193	12,763	14,900	11,329	9,367	5,637
Doukhorobor.....	-	-	-	8,775	10,493	12,648	14,637
Evangelical Association.....	4,701	-	-	10,193	10,595	13,905	22,637
Friends (Quaker).....	7,345	6,553	4,650	4,100	4,027	3,149	2,637
Greek Church.....	18	-	-	15,630	88,507	160,832	-
Greek Catholic ⁴	-	-	-	-	-	-	186,637
Greek Orthodox.....	-	-	-	-	-	-	102,637
Holiness Movement.....	-	-	-	-	-	3,245	4,637
International Bible Students.....	-	-	-	-	-	6,678	13,637
Jewish.....	1,115	2,393	6,414	16,401	74,564	125,197	155,637
Lutheran.....	37,935	46,350	63,982	92,524	229,864	286,458	393,637
Mennonite (inc. Hutterite).....	-	-	-	31,797	44,625	58,797	88,637
Methodist.....	567,091	742,981	847,765	916,886	1,079,993	1,159,458	-
Mormon.....	534	-	-	6,891	15,971	19,622	21,637
No religion.....	5,146	2,634	-	4,810	26,027	21,739	20,637
Pagan.....	1,886	4,478	-	15,107	11,840	6,778	4,637
Pentecostal.....	-	-	-	-	-	7,003	25,637
Plymouth Brethren.....	2,229	-	-	3,040	3,438	6,482	6,637
Presbyterian.....	544,998	676,165	755,326	842,531	1,116,071	1,409,407	870,437
Protestant.....	10,146	6,519	12,253	11,612	30,265	30,754	23,637
Roman Catholic.....	1,492,029	1,791,982	1,992,017	2,229,600	2,833,041	3,389,636	4,093,637
Salvation Army.....	-	-	13,949	10,208	18,834	24,733	30,637
United Church.....	-	-	-	-	-	-	2,016,637
Union Church.....	-	-	-	29	633	8,728	-
Unitarian.....	2,275	2,126	1,777	1,934	3,224	4,926	4,637
All other (various).....	27,553	21,382	36,942	21,536	34,426	35,846	59,637
Not given.....	17,055	86,769	89,355	43,222	32,490	19,354	16,637
Totals.....	3,485,761	4,324,810	4,833,239	5,371,315	7,206,643	8,788,483	10,376,637

¹ Including Tunkers. ² Practically all Methodists and Congregationalists, and a large number of Presbyterians united to form the United Church of Canada in 1925. ³ The Greek Church of Canada in 1931 is represented by the Greek Catholic and the Greek Orthodox Churches. ⁴ Formerly included with the Greek Church.

-Ratio per cent of Specified Denominations to Total Population in Census Years.

Denomination.	1871.	1881.	1891.	1901.	1911.	1921.	1931.
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Evangelist.....	0.18	0.17	0.13	0.15	0.14	0.16	0.15
Anglican.....	14.17	13.35	13.37	12.69	14.47	16.02	15.76
Baptist.....	6.87	6.85	6.29	5.92	5.31	4.80	4.27
Methodist.....	0.07	0.20	0.23	0.12	0.13	0.13	0.13
Buddhist.....	-	-	-	0.19	0.14	0.13	0.15
Christian.....	-	-	-	0.13	0.23	0.14	0.11
Church of Christ.....	-	-	-	-	-	0.04	0.10
Confucian.....	-	-	-	0.10	0.20	0.31	0.23
Christian Science.....	-	-	-	0.05	0.07	0.16	0.18
Congregationalist.....	0.63	0.62	0.58	0.53	0.47	0.35	3
Disciple.....	-	0.47	0.26	0.28	0.16	0.11	0.06
Quaker.....	-	-	-	0.16	0.15	0.14	0.14
Eastern religions ¹	-	-	0.19	0.29	0.39	0.46	-
Angelic.....	0.13	-	-	0.19	0.15	0.16	0.21
Ends.....	0.21	0.15	0.10	0.08	0.06	0.04	0.02
Greek Church.....	-	-	-	0.29	1.23	1.93	4
Greek Catholic ⁵	-	-	-	-	-	-	1.80
Greek Orthodox.....	-	-	-	-	-	-	0.98
Business Movement.....	-	-	-	-	-	0.04	0.04
International Bible	-	-	-	-	-	-	-
Students.....	-	-	-	-	-	0.08	0.13
Wish.....	0.03	0.60	0.13	0.31	1.03	1.42	1.50
Therapist.....	1.09	1.06	1.32	1.72	3.19	3.26	3.80
Monist ²	-	-	-	0.59	0.62	0.67	0.86
Methodist.....	16.27	17.11	17.54	17.07	14.98	13.19	3
Monist.....	0.02	-	-	0.13	0.22	0.22	0.21
Religion.....	0.15	0.06	-	0.09	0.36	0.25	0.20
Gan.....	0.05	0.10	0.56	0.28	0.16	0.08	0.05
Antecostal.....	-	-	-	-	-	0.08	0.25
Ymca Brethren.....	0.06	-	-	0.06	0.05	0.07	0.07
Presbyterian.....	15.63	15.64	15.63	15.68	15.48	16.04	8.39 ³
Protestant.....	0.29	0.15	0.25	0.22	0.42	0.35	0.23
Roman Catholic.....	42.80	41.43	41.21	41.51	39.31	38.57	39.48
Salvation Army.....	-	-	0.20	0.19	0.26	0.28	0.30
United Church.....	-	-	-	-	-	-	19.44
Unitarian.....	0.07	0.05	0.04	0.04	0.04	0.06	0.04
Other (various).....	1.20	0.37	0.59	0.40	0.48	0.41	0.59
Not given.....	0.49	2.07	1.66	0.80	0.45	0.22	0.15
Totals.....	100.00	100.00	100.00	100.00	100.00	100.00	100.00

¹ Eastern Religions include Confucians, Buddhists, Mohammedans, Shintos, Sikhs, Hindus.² Included with Baptists in 1891.³ Practically all Methodists and Congregationalists, and a large number of Presbyterians united to form the United Church of Canada in 1925.⁴ The Greek Church is represented by the Greek Catholic and the Greek Orthodox Churches.⁵ Formerly included with the Greek Church.

APPENDIX III.

Statistics of Agriculture.¹

Census Statistics.—At each of the seven decennial censuses of Canada taken since Confederation, statistics of the agricultural activities carried on throughout the country have been secured. The scope of these statistics has been extended from time to time and those of the census of 1931 omit few important phases of agriculture with which a census could deal successfully. In all the later censuses the statistics of number, acreage and condition of farms, the value of farm property, the acreage sown, the yield of crops, the value of that yield, the number of fruit trees and the production and value of fruit, the number and value of live stock, etc., have been collected on a basis which allows comparison between the different censuses. Among the extensions in the scope of the census of 1921 were such matters as the details of birthplace, age, length of residence in Canada and experience of farm operators, the chief items of farm expenditure, an attempt for the first time to obtain the quantities of vegetables grown for sale, a classification of live stock according to age, etc., the number and value of young animals raised on farms and an enumeration of farm facilities, including tractors, automobiles, telephones and gas and electric lighting. The schedules for 1931 have been designed to secure more complete information on farm workers and farm population; the degree to which mechanization of farms is proceeding; and the proportion of crops sold to be sold. As a result of these extensions, comparisons with future censuses will be on a much more detailed basis than in the past, and the trend of agricultural development will be seen with greater accuracy. The statistics of agriculture collected in the census of 1921, which are at present the latest published except regarding the Prairie Provinces, are given in full detail in Volume V of the census series, while a few of the most significant features showing the growth of the agricultural industry from 1871 to the present will be found on pp. xxvi-xxvii of the introduction to this Year Book, in the "Statistical Summary of the Progress of Canada." A census of the three Prairie Provinces was taken in 1926 in connection with the census of population of that year, the results being published for each of the provinces separately as Part II of the respective census reports.² Censuses of the three provinces were also taken in 1906 and 1916.

The results of the census of 1931 are now appearing in preliminary and mimeographed form. In the following pages, where 1931 figures are quoted, the census has been relied on as far as the data are available.

Crop-Reporting Service.—The voluntary crop-reporting service of the Dominion Government, which has been in operation since 1908, has for its object the issue of accurate, timely and independent reports on crop conditions throughout the Dominion: first, in the interests of the general body of Canadian farmers; secondly, for the information and guidance of other interests allied to and dependent upon agriculture (interests represented by statesmen, economists, bankers, grain

¹Revised under the direction of Dr. T. W. Grindley, Chief of the Agricultural Branch, Dominion Bureau of Statistics. This Branch is concerned with both primary and secondary statistics of agriculture with the statistics of the production and distribution of agricultural commodities. The primary statistics relate mainly to the reporting of crop conditions, crop and live-stock estimates, values of farm lands, wages of farm labour, and monthly and annual prices received by farmers for their products. The secondary statistics relate to the marketing of grain and live stock and reports on the milling and sugar industries and cold-storage holdings. A list of the publications of this Branch is given in Chapter XXIX, Section I, under "Production".

²For a comparison of some of the agricultural statistics of the census of 1926 with previous census figures see pp. 271-273 of the 1929 Year Book.

dealers, transportation agents and others); and thirdly, for reporting to the Institute of Agriculture at Rome (to which Canada is an adhering country), in return for reports on the production of other countries and of world totals which influence prices and consequently affect the interests of Canada. A description of the crop-reporting service will be found in the *Canada Year Book*, 1925, p. 205. Supplementing the monthly reports from crop correspondents, the Bureau issues telegraphic crop reports utilizing the services of agriculturists throughout the Dominion. For the Prairie Provinces, these are issued every week from the first of June to the first of September, while the reports on a Dominion-wide basis are issued every two weeks during the same period. The program of reports for 1932-33 is given in the *Monthly Bulletin of Agricultural Statistics*, January, 1932, pp. 34-36 and is also issued as a special leaflet.

Annual Statistics.—In addition to the crop-reporting service, statistics of the areas under field crops and of the numbers of farm live stock are collected. These arrangements have been in force since 1918, and are carried out by the Dominion Bureau of Statistics in co-operation with the Provincial Governments. The statistics are secured by simple schedules which are at present returned by about one-fourth of the farmers of Canada. They form the basis of the estimates for the whole of Canada, the totals being calculated according to the proportion which exists between the number of returns and the total number of farms. The results for wheat, oats, barley, rye and flax in the three Prairie Provinces are ready for publication in August, while the results for the remaining crops and for the numbers of farm live stock are published in December. The areas, thus determined, are multiplied by the average yields per acre as reported by crop correspondents, on the basis of the total estimated production for each crop. The June schedule covers the areas sown to field crops, the numbers of live stock and poultry on hand and breeding and marketing intentions with regard to live stock and poultry. The December schedule contains the same items with the exception of field crop areas.

In 1931, in eight of the provinces, the schedules were distributed and collected through the agency of the rural schools, under plans which have been found effective in securing a larger sample of the farms of the country than could be obtained in any other way. In British Columbia the schedules were sent direct to the farmer through the mail.

Monthly Bulletin of Agricultural Statistics.—Originally established in 1908 as the "Census and Statistics Monthly", but changed to its present title in April, 1917, this publication is now in its twenty-fifth year. It is the official organ not only for the monthly crop reports and annual statistics previously described, but also for statistics of dairying, fur farming, fruit, hives and honey, hops, tobacco, maple products, sugar beets, beet sugar, flax fibre, clover and grass seeds, exports, fertilizer supplies, prices, values, foreign agriculture and other subjects in considerable variety.

Presentation of Agricultural Statistics.—In the current edition of the *Year Book*, statistics of agriculture are presented under the following headings: (1) Agricultural revenue and wealth; (2) Acreage, yield and value of principal field crops, distribution of the wheat and oat crops etc.; (3) Farm live stock and poultry; (4) Fur farming; (5) Dairying; (6) Fruit production; (7) Special agricultural crops; (8) Farm labour and wages; (9) Prices of agricultural produce; (10) Agricultural statistics of the census; (11) Miscellaneous agricultural statistics; (12) World principal agricultural statistics.

Subsection 1.—Agricultural Revenue and Wealth.

Revenue.—Table 1 shows under principal headings the gross agricultural revenue of Canada, by provinces, for the years 1927 to 1931. It is important to note that the figures represent gross values, as no distinction is made between crops used as materials for other kinds of production, such as the feeding of live stock, and no allowance is made for the costs of production.¹

1.—Estimated Gross Annual Agricultural Revenue of Canada, by Provinces, 1927-31. ("000" omitted.)

Item.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Canada—					
Field crops.....	1,173,133	1,125,003	948,981	662,041	4,300
Farm animals.....	183,927	197,880	207,317	166,630	95
Wool.....	4,108	5,099	4,470	2,311	1
Dairy products.....	294,874	297,625	291,743	272,458	227
Fruits and vegetables.....	46,027	48,756	46,398	40,709	39
Poultry and eggs.....	97,937	106,653	107,664	95,227	35
Fur farming.....	4,798	6,106	6,791	4,925	4
Maple products.....	4,935	5,583	6,119	5,251	3
Tobacco.....	9,112	6,834	6,276	7,058	7
Flax fibre.....	321	509	393	371	1
Clover and grass seed.....	3,841	2,957	2,123	2,482	1
Honey.....	2,937	3,015	2,806	2,584	2
Totals.....	1,825,950	1,806,020	1,631,081	1,262,047	880
Prince Edward Island—					
Field crops.....	13,421	12,444	16,940	10,973	6
Farm animals.....	2,122	2,353	2,405	2,212	1
Wool.....	108	146	122	50	1
Dairy products.....	3,683	3,804	2,955	2,686	2
Fruits and vegetables.....	250	253	253	254	1
Poultry and eggs.....	1,529	1,637	1,523	1,461	1
Fur farming.....	1,771	1,641	1,741	1,010	1
Clover and grass seed.....	39	18	35	43	1
Honey.....	—	1	2	1	1
Totals.....	22,923	22,297	25,976	18,690	12
Nova Scotia—					
Field crops.....	18,597	18,824	20,945	16,647	10
Farm animals.....	3,832	4,615	4,687	4,186	2
Wool.....	324	391	364	197	1
Dairy products.....	11,895	11,802	11,464	10,601	6
Fruits and vegetables.....	3,972	4,243	3,628	3,631	3
Poultry and eggs.....	1,583	1,761	1,905	1,819	1
Fur farming.....	296	367	346	325	1
Maple products.....	28	59	56	36	1
Clover and grass seed.....	8	12	10	10	1
Honey.....	6	6	7	7	1
Totals.....	40,541	42,080	43,412	37,459	23
New Brunswick—					
Field crops.....	18,413	18,275	23,835	18,554	10
Farm animals.....	3,249	3,778	3,647	3,746	2
Wool.....	191	242	191	89	1
Dairy products.....	9,641	8,662	8,734	8,338	6
Fruits and vegetables.....	1,070	1,011	999	864	3
Poultry and eggs.....	1,744	1,835	1,720	1,714	1
Fur farming.....	576	893	715	624	1
Maple products.....	30	32	38	27	1
Clover and grass seed.....	15	16	18	12	1
Honey.....	19	17	22	11	1
Totals.....	34,948	34,761	39,919	33,979	23

¹For explanation of the methods used in estimating values, see the Monthly Bulletin of Agricultural Statistics for March, 1927, pp. 81-84.

**1.—Estimated Gross Annual Agricultural Revenue of Canada, by Provinces,
1927-31. ("000" omitted)—continued.**

Item.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$
Quebec—					
Field crops.....	144,273	130,363	153,664	120,366	72,801
Farm animals.....	33,298	37,319	41,001	32,300	19,509
Wool.....	1,281	1,367	1,320	745	534
Dairy products.....	88,527	93,116	86,698	81,837	69,561
Fruits and vegetables.....	7,555	7,577	7,974	6,306	6,140
Poultry and eggs.....	14,861	16,180	14,407	13,513	9,243
Fur farming.....	755	1,506	2,104	1,258	875
Maple products.....	3,106	3,604	4,767	3,612	1,817
Tobacco.....	1,469	978	1,210	792	336
Clover and grass seed.....	270	151	115	89	154
Honey.....	678	611	438	455	487
Totals.....	296,073	292,772	313,698	261,273	181,457
Saskatchewan—					
Field crops.....	255,900	243,768	241,778	179,919	124,541
Farm animals.....	72,896	75,908	76,022	60,738	33,175
Wool.....	1,112	1,502	1,323	632	458
Dairy products.....	115,126	117,935	115,757	104,859	92,276
Fruits and vegetables.....	18,344	19,658	19,208	16,820	14,412
Poultry and eggs.....	41,296	45,993	44,773	41,461	29,491
Fur farming.....	566	748	777	817	750
Maple products.....	1,772	1,888	1,258	1,576	1,674
Tobacco.....	7,556	5,823	5,039	6,244	6,814
Flax fibre.....	321	509	393	371	179
Clover and grass seed.....	2,798	2,814	1,672	1,855	1,110
Honey.....	890	1,267	1,208	870	744
Totals.....	518,577	517,313	509,208	416,162	305,624
Manitoba—					
Field crops.....	82,280	113,492	78,919	52,975	24,664
Farm animals.....	13,044	14,172	14,867	11,846	6,868
Wool.....	129	163	162	120	60
Dairy products.....	17,781	17,597	14,404	15,238	13,715
Fruits and vegetables.....	1,609	1,567	1,464	1,072	1,032
Poultry and eggs.....	7,210	7,272	8,920	7,998	5,237
Fur farming.....	367	335	374	263	200
Clover and grass seed.....	195	103	40	184	87
Honey.....	960	751	822	910	516
Totals.....	123,575	155,452	119,472	90,606	52,379
Alberta—					
Field crops.....	348,005	348,586	235,248	135,695	66,101
Farm animals.....	21,956	23,390	25,150	20,744	12,434
Wool.....	187	237	226	108	80
Dairy products.....	24,449	21,331	23,125	21,228	18,893
Fruits and vegetables.....	2,701	2,737	1,850	2,047	2,036
Poultry and eggs.....	12,498	12,934	13,454	10,121	6,934
Fur farming.....	87	108	127	152	125
Clover and grass seed.....	305	260	50	85	10
Honey.....	105	78	74	108	73
Totals.....	410,293	409,661	299,304	190,288	106,686
Ontario—					
Field crops.....	272,743	220,786	157,254	110,284	96,907
Farm animals.....	27,952	29,322	32,271	24,422	14,426
Wool.....	633	794	519	250	228
Dairy products.....	16,521	14,980	18,928	17,881	15,914
Fruits and vegetables.....	1,770	1,858	1,800	1,423	1,411
Poultry and eggs.....	10,093	9,867	11,880	10,147	5,883
Fur farming.....	216	289	340	303	275
Clover and grass seed.....	130	77	176	171	83
Honey.....	60	67	78	99	92
Totals.....	330,118	278,040	223,246	164,980	135,219

**1.—Estimated Gross Annual Agricultural Revenue of Canada, by Provinces,
1927-31. ("000" omitted)—concluded.**

Item.	1927.	1928.	1929.	1930.	1931.
British Columbia—					
Field crops.....	19,501	18,465	20,398	16,628	
Farm animals.....	5,578	7,023	7,767	6,436	
Wool.....	143	257	243	120	
Dairy products.....	7,251	8,398	9,678	9,790	
Fruits and vegetables.....	8,756	9,852	9,222	9,360	
Poultry and eggs.....	7,123	9,174	9,082	6,993	
Fur farming ¹	164	219	267	173	
Tobacco.....	87	33	27	22	
Clover and grass seed.....	82	6	7	33	
Honey.....	217	217	158	123	
Totals.....	48,902	53,644	56,849	49,678	

¹Including Yukon Territory.

Table 1 shows that in 1931 the estimated agricultural revenue of Canada was \$880,241,000 as compared with \$1,262,047,000 in 1930, \$1,631,081,000 in 1929, \$1,806,020,000 in 1928 and \$1,825,950,000 in 1927. The total for 1931 shows a decrease of \$381,806,000 or 30.3 p.c. as compared with 1930. The decrease was mainly due to field crops, was general all along the line, tobacco being the only item to show an increase.

Comparing the provinces for 1931, Ontario leads with a total revenue of \$305,624,000, and the provinces next in order are: Quebec, \$181,457,000; Alberta, \$135,219,000; Saskatchewan, \$106,686,000; Manitoba, \$52,379,000; British Columbia, \$35,155,000; Nova Scotia, \$27,335,000; New Brunswick, \$24,067,000; and Prince Edward Island, \$12,318,000.

Wealth.—Table 2 shows approximately, by provinces, the gross agricultural wealth of the Dominion in 1931.

**2.—Estimated Gross Agricultural Wealth of Canada, by Provinces, 1931.
("000" omitted.)**

Province.	Lands.	Buildings.	Implements and Machinery.	Live Stock.	Poultry.	Animals on Fur Farms.	Agricultural Production.	Total.
	\$	\$	\$	\$	\$	\$	\$	
P.E. Island.....	28,476	17,289	6,870	5,523	794	1,500	12,318	
Nova Scotia.....	49,155	51,173	10,146	12,607	1,044	750	27,335	
New Brunswick...	61,112	45,158	13,545	12,822	1,136	1,000	24,067	
Quebec.....	546,666	285,530	111,940	88,473	6,657	3,000	181,457	1,000,000
Ontario.....	808,124	491,330	169,954	151,904	15,551	3,000	305,624	1,000,000
Manitoba.....	315,245	113,005	67,848	36,825	3,659	750	52,379	
Saskatchewan.....	877,042	216,398	176,676	76,213	5,837	900	106,686	1,000,000
Alberta.....	523,221	121,765	98,814	67,229	4,881	1,100	135,219	
British Columbia..	107,020	41,036	9,379	16,704	3,579	1,000	35,155	
Totals.....	3,316,061	1,382,684	665,172	468,300	43,138	13,000	880,240	6,000,000

The values of buildings, lands, implements and machinery for the year 1921 were considerably more than the values previously used in these calculations, which were based upon the census of 1911. The increase for these items during the decade amounted to \$1,115,986,000. There has, however, undoubtedly been a fall in the value of land during the latest ten years, conse-

in the fall in the prices of agricultural products and live stock, and there may have been some changes in the values of buildings, machinery and implements, to what extent it is impossible to state until the results of the 1931 census are available. The estimates collected from crop correspondents of the value per acre and, including buildings, show a drop in the value of land per acre from \$40 921 to \$37 in 1929 and to \$32 in 1930, resulting from decreases in most of the prices. The rates of change thus shown have been applied to the census data, with the result that the census figure of \$3,702,370,000, the value of land in 1921, becomes \$3,316,061,000 as the estimated value in 1931.

Altogether, the gross agricultural wealth of Canada for 1931 may be estimated at \$6,768,595,000, as compared with \$7,384,239,000 in 1930. The decrease of \$664,000 or about 8 p.c. is due both to decreased yields and to lower prices for everything produced by the farmer, live-stock raiser and fur farmer.

Subsection 2.—Acreage, Yield and Value of Field Crops.

The Chief Field Crops of the Last Twenty Years.—In Table 3 will be found a summary statement of the acreage, yield and value of wheat, oats, barley, buckwheat, flaxseed, potatoes, hay and clover and alfalfa for the latest 10 years. Comparative figures back to 1908, given at pp. 230-232 of the 1929 Year Book, indicate the recent growth of Canadian agriculture. In particular may be noted the tripling of the wheat crop, the almost doubling of the oat crop, the tripling of the barley crop, the thirteen-fold increase in the rye crop, the 40 p.c. addition to the hay and clover crop and the seven-fold increase in the alfalfa crop within the 23 years, disregarding the 1931 crops which do not, by any means, represent maximum yields; all these crops have attained higher levels of yield in intervening years than in immediately preceding years. On the other hand, the acreage and yield of the potato crop have not shown a wide variation throughout the period, presumably because this crop is produced mainly for home consumption. Those who desire details for earlier years will find certain information on acreage, yield and value on page xxvi of the Statistical Summary of Progress.

3.—Area, Yield and Value of Principal Crops Grown in Canada, 1922-31.¹

Crop and Year.	Area.	Yield per Acre.	Total Yield.	Average Price per bush.	Total Value.
	000 acres.	bush.	000 bush.	\$	000 \$
1922.....	22,423	17.8	399,786	0.85	339,419
1923.....	21,886	21.7	474,199	0.67	316,995
1924.....	22,056	11.9	262,097	1.22	320,362
1925.....	20,790	19.0	395,475	1.23	487,736
1926.....	22,896	17.8	407,136	1.09	442,221
1927.....	22,460	21.4	479,665	1.00	477,791
1928.....	24,119	23.5	566,726	0.80	451,235
1929.....	25,255	12.1	304,520	1.05	319,715
1930.....	24,898	16.9	420,672	0.49	204,693
1931.....	26,115	11.6	304,144	0.38	117,080
1922.....	14,541	33.8	491,230	0.38	185,455
1923.....	14,388	39.3	563,998	0.33	184,857
1924.....	14,491	28.0	405,976	0.49	200,688
1925.....	12,556	32.0	402,296	0.42	167,171
1926.....	12,741	30.1	383,416	0.48	184,098
1927.....	13,240	33.2	439,713	0.51	225,879
1928.....	13,137	34.4	452,153	0.47	210,956
1929.....	12,479	22.7	282,838	0.59	168,017
1930.....	13,259	31.9	423,148	0.24	102,919
1931.....	12,871	25.5	328,278	0.24	77,970

¹Footnote see end of table, p. 1029.

3.—Area, Yield and Value of Principal Crops Grown in Canada, 1922-31—continued

Crop and Year.	Area.	Yield per Acre.	Total Yield.	Average Price per Bush.
Barley—	000 acres.	bush.	000 bush.	\$
1922.....	2,600	27.8	71,865	0.46
1923.....	2,785	27.8	76,998	0.42
1924.....	3,407	26.1	88,807	0.70
1925.....	3,524	24.7	87,118	0.53
1926.....	3,647	27.4	99,987	0.52
1927.....	3,506	27.7	96,938	0.66
1928.....	4,881	27.9	136,391	0.56
1929.....	5,926	17.3	102,313	0.59
1930.....	5,559	24.3	135,160	0.20
1931.....	3,768	17.9	67,383	0.26
Rye—				
1922.....	2,105	15.5	32,373	0.58
1923.....	1,448	16.0	23,232	0.49
1924.....	891	15.4	13,751	0.99
1925.....	643	14.2	9,159	0.77
1926.....	754	16.2	12,179	0.77
1927.....	743	20.9	15,571	0.82
1928.....	840	17.4	14,618	0.79
1929.....	992	13.3	13,161	0.84
1930.....	1,448	15.2	22,019	0.20
1931.....	778	6.8	5,322	0.28
Buckwheat—				
1922.....	431	22.5	9,701	0.84
1923.....	440	22.3	9,744	0.84
1924.....	442	25.8	11,412	0.89
1925.....	474	22.2	10,546	0.85
1926.....	457	21.6	9,882	0.87
1927.....	471	23.1	10,890	0.89
1928.....	503	21.7	10,899	0.93
1929.....	516	20.3	10,470	0.94
1930.....	490	22.2	10,903	0.65
1931.....	323	20.6	6,650	0.50
Flaxseed—				
1922.....	565	8.9	5,009	1.72
1923.....	630	11.3	7,140	1.77
1924.....	1,277	7.6	9,695	1.94
1925.....	843	7.4	6,237	1.85
1926.....	738	8.1	5,995	1.62
1927.....	476	10.3	4,885	1.55
1928.....	378	9.6	3,614	1.59
1929.....	382	5.4	2,060	2.38
1930.....	582	8.7	5,069	0.94
1931.....	627	4.1	2,565	0.79
Potatoes—				
1922.....	684	cwt.	cwt.	per cwt.
1923.....	561	81.6	55,745	0.90
1924.....	562	99.0	55,497	1.02
1925.....	562	100.9	56,648	0.85
1926.....	522	77.0	40,217	2.06
1927.....	523	89.7	46,937	1.47
1928.....	572	81.2	46,458	1.17
1929.....	599	83.8	50,195	0.81
1930.....	544	73.4	39,930	1.59
1931.....	571	84.4	48,241	0.83
	584	90.0	52,305	0.43
Hay and clover—				
1922.....	10,002	tons.	000 tons.	per ton.
1923.....	9,726	1.45	14,488	13.46
1924.....	9,875	1.55	14,845	10.97
1925.....	9,875	1.51	14,960	11.07
1926.....	9,563	1.56	14,962	10.35
1927.....	9,516	1.48	14,058	12.13
1928.....	10,227	1.70	17,370	10.41
1929.....	10,321	1.60	16,515	10.37
1930.....	10,560	1.50	15,833	11.65
1931.....	10,618	1.54	16,397	9.83
	8,532	1.64	13,960	7.62

For footnote see end of table, p. 1029.

Area, Yield and Value of Principal Crops Grown in Canada, 1922-31¹—concluded.

Crop and Year.	Area.	Yield per Acres.	Total Yield.	Average Price per Bush.	Total Value.
	000 acres.	tons.	000 tons.	per ton.	000 \$
22.....	306	2.65	806	12.77	10,295
23.....	391	2.65	1,029	11.58	11,914
24.....	474	2.65	1,257	11.70	14,705
25.....	637	2.48	1,582	12.72	20,120
26.....	837	2.46	2,061	13.30	27,414
27.....	910	2.37	2,157	12.03	25,946
28.....	854	2.35	2,010	11.51	23,138
29.....	799	2.30	1,835	12.63	23,183
30.....	744	2.20	1,640	12.12	19,877
31.....	537	2.50	1,342	10.37	13,917

Comparative figures for the years 1908-20 are given in the Canada Year Book, 1929, pp. 230-232. Total value of wheat for 1912 should be \$139,090,000 instead of the \$19,090,000 shown on p. 230 of the Year Book, the error being due to the dropping out of a figure.

Total Areas and Values, 1926-1931.—Table 4 shows for Canada and the provinces, over stated years, the total estimated areas and values of field crops, and Table 5 the field crops of Canada compared as to quantity and value for 1930 and 1931, and Table 6 the areas, yields and values of the principal field crops in Canada, by provinces, for the years 1929-31.

4.—Total Area and Value of Field Crops in Canada, 1926-31.¹

Province.	1926.	1927.	1928.	1929.	1930.	1931.
	acres.	acres.	acres.	acres.	acres.	acres.
Canada.....	56,097,836	56,172,310	59,351,811	61,207,034	62,214,670	57,964,056
Alberta.....	519,693	533,463	540,619	545,763	567,180	494,351
British Columbia.....	712,027	702,127	714,047	731,354	735,900	508,269
Manitoba.....	891,631	889,277	900,376	908,659	911,490	804,167
Ontario.....	6,867,200	6,877,900	6,893,000	7,051,605	7,342,400	5,631,062
Quebec.....	10,434,401	10,305,045	10,357,960	10,020,294	10,009,200	9,064,649
Saskatchewan.....	6,199,008	5,968,983	6,744,467	6,687,163	6,794,700	5,708,889
Nova Scotia.....	19,388,609	19,527,971	21,063,678	22,420,232	22,868,300	21,769,639
New Brunswick.....	10,705,948	10,971,761	11,727,830	12,432,595	12,561,400	13,500,731
Prince Edward Island.....	379,319	395,783	409,834	409,369	424,100	432,299
	\$	\$	\$	\$	\$	\$
Canada.....	1,104,983,100	1,173,133,600	1,125,003,000	948,981,400	662,040,900	425,065,100
Alberta.....	17,079,500	13,420,800	12,444,000	16,940,400	10,973,000	6,828,700
British Columbia.....	22,648,600	18,597,000	18,824,000	20,945,000	16,646,500	10,087,000
Manitoba.....	23,338,000	18,413,500	18,275,000	23,835,000	18,554,000	10,651,000
Ontario.....	139,263,000	144,273,000	130,363,000	153,664,000	120,366,000	72,801,000
Quebec.....	261,264,000	255,900,000	243,768,000	241,778,000	179,919,000	124,541,000
Saskatchewan.....	111,937,000	82,280,000	113,492,000	78,919,000	52,975,000	24,664,000
Nova Scotia.....	309,128,000	348,005,000	348,586,000	235,248,000	135,695,000	66,101,400
New Brunswick.....	202,149,000	272,743,300	220,786,000	157,254,000	110,284,400	96,907,000
Prince Edward Island.....	18,176,000	19,501,000	18,465,000	20,398,000	16,628,000	12,484,000

For earlier figures see pp. xxvi—xxvii of the introduction to this volume.

5.—Field Crops of Canada, compared as to Quantity and Value, 1930 and 1931
("000" omitted.)

Field Crop.	Actual Value, 1931.	Value at Prices of 1930.	Actual Value, 1930.	Increase (+) or Decrease (-).	Due to Higher (+) or Lower (-) Prices.	Due to Larger (+) or Smaller (-) Quantity.
	\$	\$	\$	\$	\$	\$
Wheat.....	117,080	149,031	204,693	- 87,613	- 31,951	- 75,662
Oats.....	77,970	78,787	102,919	- 24,949	- 817	- 23,970
Barley.....	17,465	13,477	27,254	- 9,789	+ 3,988	- 13,771
Rye.....	1,476	1,064	4,402	- 2,926	+ 412	- 3,338
Peas.....	1,155	2,014	3,487	- 2,332	- 859	- 1,478
Beans.....	873	2,878	3,261	- 2,388	- 2,005	- 383
Buckwheat.....	3,299	4,322	7,124	- 3,825	- 1,023	- 2,802
Mixed grains.....	14,453	16,561	18,435	- 3,982	- 2,108	- 1,874
Flaxseed.....	2,025	2,411	4,741	- 2,716	- 386	- 2,330
Corn for husking.....	2,253	4,721	5,054	- 2,801	- 2,468	- 333
Potatoes.....	22,359	43,413	39,858	- 17,499	- 21,054	+ 3,555
Turnips, etc.....	8,089	12,923	18,180	- 10,091	- 4,834	- 5,257
Hay and clover.....	106,343	137,227	161,122	- 54,779	- 30,884	- 23,895
Grain hay.....	22,130	24,315	21,254	+ 876	- 2,185	+ 3,061
Alfalfa.....	13,917	16,265	19,877	- 5,960	- 2,348	- 3,612
Fodder corn.....	11,371	14,124	17,142	- 5,771	- 2,753	- 3,018
Sugar beets.....	2,807	3,153	3,238	- 431	- 346	- 85
Totals.....	425,065	526,686	662,041	- 236,976	- 101,621	- 135,355
Increase or decrease.....	-	-	-	- 35.8 p.c.	- 15.4 p.c.	- 20.1 p.c.

6.—Area, Yield and Value of Principal Field Crops in Canada, by Provinces, 1929

Field Crop.	Year.	Area.	Yield per Acre.	Total Yield.	Average Price per Bushel.	Total Value.
		acres.	bush.	bush.	\$	\$
Canada—						
Wheat.....	1929	25,255,002	12.1	304,520,000	1.05	319,710,000
	1930	24,897,900	16.9	420,672,000	0.49	204,692,000
	1931	26,114,650	11.6	304,144,000	0.38	117,080,000
Oats.....	1929	12,479,477	22.7	282,838,300	0.59	168,010,000
	1930	13,258,700	31.9	423,148,000	0.24	102,919,000
	1931	12,871,341	25.5	328,278,000	0.24	77,970,000
Barley.....	1929	5,925,542	17.3	102,313,300	0.59	60,500,000
	1930	5,558,700	24.3	135,160,200	0.20	27,254,000
	1931	3,768,269	17.9	67,382,600	0.26	17,465,000
Fall rye.....	1929	664,193	14.7	9,775,000	0.84	8,180,000
	1930	1,091,000	15.0	16,321,000	0.19	3,180,000
	1931	598,511	6.5	3,873,000	0.28	1,070,000
Spring rye.....	1929	327,751	10.3	3,385,500	0.86	2,900,000
	1930	357,050	16.0	5,697,500	0.21	1,210,000
	1931	179,023	8.1	1,449,000	0.27	240,000
All rye.....	1929	991,944	13.3	13,160,500	0.84	11,090,000
	1930	1,448,050	15.2	22,018,500	0.20	4,400,000
	1931	777,534	6.8	5,322,000	0.28	1,470,000
Peas.....	1929	125,194	15.8	1,979,800	2.06	4,070,000
	1930	129,410	18.3	2,370,600	1.47	3,480,000
	1931	83,148	16.5	1,370,000	0.84	1,150,000
Beans.....	1929	86,290	17.3	1,491,300	3.30	4,920,000
	1930	98,680	14.6	1,438,600	2.27	3,240,000
	1931	80,659	15.7	1,267,900	0.69	870,000
Buckwheat.....	1929	515,976	20.3	10,470,100	0.94	9,860,000
	1930	490,300	22.2	10,903,300	0.65	7,120,000
	1931	323,103	20.6	6,649,700	0.50	3,290,000

Area, Yield and Value of Principal Field Crops in Canada, by Provinces, 1929-31—continued.

Field Crop.	Year.	Area.	Yield per Acre.	Total Yield.	Average Price per Bushel.	Total Value.
		acres.	bush.	bush.	\$	\$
Barley—concluded.						
Barley.....	1929	1,118,649	32.0	35,753,700	0.76	27,227,000
	1930	1,201,400	36.9	44,276,000	0.42	18,435,000
	1931	1,186,877	33.2	39,431,000	0.37	14,453,000
Canola.....	1929	382,359	5.4	2,060,400	2.38	4,898,000
	1930	581,800	8.7	5,069,000	0.94	4,741,000
	1931	627,430	4.1	2,565,000	0.79	2,025,000
Can for husking.....	1929	152,055	34.1	5,183,000	1.06	5,469,000
	1930	161,400	36.1	5,826,000	0.87	5,054,000
	1931	130,808	41.5	5,426,000	0.42	2,253,000
Potatoes.....	1929	543,727	cwt. 73.4	39,930,000	per cwt. 1.59	63,372,000
	1930	571,300	84.4	48,241,000	0.83	39,858,000
	1931	583,947	90.0	52,305,000	0.43	22,359,000
Turnips, etc.....	1929	205,455	176.3	36,228,000	0.53	19,062,000
	1930	225,930	181.8	41,064,000	0.44	18,180,000
	1931	154,147	191.0	29,371,000	0.28	8,089,000
Hay and clover.....	1929	10,560,101	tons. 1.50	15,833,000	per ton. 11.65	184,528,000
	1930	10,618,200	1.54	16,397,000	9.83	161,122,000
	1931	8,532,369	1.64	13,960,000	7.62	106,343,000
Alfalfa.....	1929	798,951	2.30	1,835,000	12.63	23,183,000
	1930	744,000	2.20	1,640,000	12.12	19,877,000
	1931	537,410	2.50	1,342,000	10.37	13,917,000
Older corn.....	1929	422,848	7.86	3,322,300	4.59	15,265,000
	1930	426,400	8.15	3,475,700	4.93	17,142,000
	1931	341,717	8.38	2,864,900	3.97	11,370,700
Main hay.....	1929	1,647,095	1.27	2,099,000	12.05	25,287,000
	1930	1,798,000	1.76	3,159,000	6.73	21,254,000
	1931	1,800,000	2.00	3,613,000	6.13	22,130,000
Gar beets.....	1929	43,464	8.37	364,000	6.85	2,492,000
	1930	52,500	8.97	471,000	6.87	3,238,000
	1931	50,647	9.06	459,000	6.12	2,807,000
Prince Edward Island—			bush.	bush.	per bush.	
Wheat.....	1929	27,057	16.7	452,000	1.59	719,000
	1930	26,500	18.3	485,000	0.90	437,000
	1931	20,291	16.2	328,000	0.85	279,000
Barley.....	1929	170,105	32.5	5,524,000	0.65	3,591,000
	1930	174,700	32.7	5,712,000	0.32	1,828,000
	1931	149,059	32.2	4,800,000	0.29	1,392,000
Oatley.....	1929	5,870	24.7	145,000	1.02	148,000
	1930	5,400	28.0	151,000	0.62	94,000
	1931	3,732	22.8	85,000	0.51	43,000
Peas.....	1929	211	20.0	4,200	2.00	8,400
	1930	280	20.0	5,600	1.75	10,000
Black wheat.....	1929	3,091	22.3	68,900	1.06	73,000
	1930	2,700	27.0	73,000	0.65	47,000
	1931	1,868	26.6	49,700	0.50	25,000
Red grains.....	1929	28,045	32.3	906,000	0.75	680,000
	1930	30,600	37.3	1,141,000	0.38	434,000
	1931	21,903	32.5	712,000	0.33	235,000
Potatoes.....	1929	42,500	cwt. 89.9	3,820,000	per cwt. 1.59	6,074,000
	1930	45,700	105.0	4,799,000	0.65	3,119,000
	1931	54,272	90.0	4,884,000	0.25	1,221,000
Turnips, etc.....	1929	11,116	284.4	3,161,000	0.41	1,296,000
	1930	13,500	300.0	4,050,000	0.35	1,418,000
	1931	8,512	211.0	1,796,000	0.20	359,000

6.—Area, Yield and Value of Principal Field Crops in Canada, by Provinces, 1929-31
 continued.

Field Crop.	Year.	Area.	Yield per Acre.	Total Yield.	Average Price per Bushel.	Total Value.
		acres.	tons.	tons.	\$ per ton.	\$
Prince Edward Island—conc.						
Hay and clover.....	1929	257,188	1-37	352,000	12-29	4,328
	1930	267,000	1-32	353,000	10-00	3,530
	1931	234,477	1-55	363,000	9-00	3,267
Fodder corn.....	1929	580	10-86	6,300	4-00	252
	1930	800	10-00	8,000	7-00	560
	1931	237	7-00	1,700	4-50	765
Nova Scotia—						
Wheat.....	1929	6,056	bush. 15-7	bush. 95,000	per bush. 1-72	163
	1930	5,800	17-9	104,000	1-00	104
	1931	2,927	17-1	50,000	0-88	44
Oats.....	1929	109,836	32-1	3,523,300	0-87	3,065
	1930	115,200	33-6	3,867,000	0-55	2,127
	1931	83,743	34-7	2,906,000	0-50	1,453
Barley.....	1929	10,868	26-9	292,500	1-16	339
	1930	10,800	28-7	309,500	0-70	217
	1931	7,672	28-8	221,000	0-63	139
Spring rye.....	1929	172	15-0	3,000	1-40	420
	1930	200	22-5	4,500	1-00	450
Peas.....	1929	774	17-6	13,600	2-91	40
	1930	800	18-8	15,000	2-00	30
Beans.....	1929	2,461	16-6	40,800	3-84	157
	1930	2,600	18-8	49,000	3-10	152
Buckwheat.....	1929	8,221	23-0	189,100	1-07	202
	1930	7,600	24-0	182,300	0-80	146
	1931	4,041	21-9	88,400	0-78	69
Mixed grains.....	1929	4,800	32-9	158,100	1-15	182
	1930	4,700	33-2	156,000	0-65	101
	1931	3,878	33-5	130,000	0-50	65
Potatoes.....	1929	30,783	cwt. 93-3	cwt. 2,872,000	per cwt. 1-37	3,935
	1930	31,200	107-0	3,338,000	0-80	2,670
	1931	21,394	91-0	1,946,000	0-50	973
Turnips, etc.....	1929	15,516	222-6	3,454,000	0-60	2,072
	1930	15,800	178-0	2,812,000	0-40	1,125
	1931	8,795	255-0	2,242,000	0-30	673
Hay and clover.....	1929	540,841	tons. 1-60	tons. 876,000	per ton. 12-25	10,731
	1930	540,000	1-59	859,000	11-50	9,879
	1931	375,287	1-77	664,000	10-00	6,640
Fodder corn.....	1929	1,026	10-78	11,000	5-00	55
	1930	1,200	11-00	13,000	7-00	91
	1931	532	9-70	5,200	6-00	31
New Brunswick—						
Wheat.....	1929	8,916	bush. 18-8	bush. 168,000	per bush. 1-87	314
	1930	9,900	18-8	186,000	1-00	186
	1931	7,673	18-5	142,000	0-86	122
Oats.....	1929	216,530	30-4	6,588,000	0-79	5,205
	1930	223,000	32-5	7,246,000	0-40	2,898
	1931	216,516	31-0	6,718,000	0-38	2,555
Barley.....	1929	9,448	27-4	258,800	0-99	256
	1930	10,800	29-7	320,700	0-60	192
	1931	9,845	28-9	284,600	0-53	151
Spring rye.....	1929	565	15-0	8,000	1-40	11
	1930	350	20-0	7,000	1-00	7
Peas.....	1929	1,753	16-5	29,000	2-75	80
	1930	1,880	20-0	38,000	2-10	80

Area, Yield and Value of Principal Field Crops in Canada, by Provinces, 1929-31—continued.

Field Crop.	Year.	Area.	Yield per Acre.	Total Yield.	Average Price per Bushel.	Total Value.
		acres.	bush.	bush.	\$	\$
NEW BRUNSWICK—concluded.						
Peas.....	1929	1,515	18.2	27,500	3.75	103,000
	1930	1,860	19.6	36,000	3.05	110,000
	1931	826	18.2	15,000	1.95	29,000
Buckwheat.....	1929	44,533	23.9	1,064,100	0.96	1,022,000
	1930	45,200	28.6	1,293,000	0.65	840,000
	1931	41,637	17.2	714,600	0.60	429,000
Fixed grains.....	1929	4,055	32.0	129,600	1.10	143,000
	1930	4,000	38.6	154,000	0.60	92,000
	1931	1,938	28.8	56,000	0.40	22,000
Potatoes.....	1929	45,215	cwt.	cwt.	per cwt.	
	1930	48,000	102.8	4,646,000	1.35	6,272,000
	1931	59,263	121.9	5,853,000	0.65	3,804,000
Turnips, etc.....	1929	13,790	107.0	6,341,000	0.25	1,585,000
	1930	13,600	196.5	2,710,000	0.50	1,355,000
	1931	8,898	220.0	2,992,000	0.30	898,000
Hay and clover.....	1929	559,203	247.0	2,198,000	0.20	440,000
	1930	549,200	tons.	tons.	per ton.	
	1931	457,571	1.32	736,000	12.16	8,950,000
	1930	549,200	1.49	818,000	11.25	9,203,000
	1931	457,571	1.66	760,000	7.00	5,320,000
Odder corn.....	1929	3,136	9.90	31,000	4.00	124,000
	1930	3,700	11.00	40,700	6.00	244,000
Quebec—			bush.	bush.	per bush.	
Wheat.....	1929	58,266	17.1	995,000	1.63	1,622,000
	1930	58,700	18.0	1,050,000	0.95	998,000
	1931	40,499	19.7	798,000	0.77	614,000
Oats.....	1929	1,826,042	26.0	47,475,000	0.76	36,081,000
	1930	1,899,800	26.6	50,635,000	0.47	23,798,000
	1931	1,680,525	28.2	47,223,000	0.38	17,945,000
Barley.....	1929	154,016	22.8	3,512,000	1.07	3,758,000
	1930	156,700	23.5	3,678,000	0.65	2,391,000
	1931	95,279	25.7	2,449,000	0.56	1,371,000
Spring rye.....	1929	10,954	15.8	173,500	1.47	255,000
	1930	17,500	17.7	309,000	0.75	232,000
	1931	5,456	15.7	86,000	0.70	60,000
Peas.....	1929	34,806	15.5	539,000	2.95	1,590,000
	1930	38,200	14.6	556,000	2.10	1,168,000
	1931	16,358	15.5	254,000	1.46	371,000
Beans.....	1929	16,731	17.1	286,000	3.70	1,058,000
	1930	24,100	17.3	416,000	2.50	1,040,000
	1931	4,150	18.9	78,000	1.82	142,000
Buckwheat.....	1929	159,707	21.9	3,495,000	1.04	3,635,000
	1930	156,900	23.2	3,635,000	0.73	2,654,000
	1931	94,664	22.2	2,102,000	0.58	1,219,000
Mixed grains.....	1929	134,500	26.4	3,552,000	0.95	3,374,000
	1930	143,700	26.1	3,752,000	0.65	2,439,000
	1931	107,903	24.9	2,687,000	0.52	1,397,000
Flaxseed.....	1929	2,996	12.1	36,400	2.54	92,000
	1930	5,300	9.6	51,000	2.15	110,000
	1931	1,529	10.2	16,000	2.01	32,000
Corn for husking.....	1929	32,055	22.9	733,000	1.39	1,019,000
	1930	31,400	21.6	677,000	1.00	677,000
	1931	6,313	25.4	160,000	0.92	147,000
Potatoes.....	1929	162,411	cwt.	cwt.	per cwt.	
	1930	165,800	95.0	15,429,000	1.28	19,749,000
	1931	144,421	81.4	13,491,000	0.95	12,816,000
	1931	144,421	117.0	16,897,000	0.51	8,617,000

6.—Area, Yield and Value of Principal Field Crops in Canada, by Provinces, 1929-31—continued.

Field Crop.	Year.	Area.	Yield per Acre.	Total Yield.	Average Price per Bushel.	Total Value.
		acres.	cwt.	cwt.	per cwt.	\$
Quebec—concluded.						
Turnips, etc.	1929	40,437	206.1	8,333,000	0.64	5,333,000
	1930	59,300	182.8	10,840,000	0.50	5,420,000
	1931	25,648	238.0	6,104,000	0.43	2,625,000
Hay and clover	1929	4,306,727	1.46	6,308,000	11.30	71,258,000
	1930	4,500,000	1.50	6,771,000	9.25	62,635,000
	1931	3,404,866	1.65	5,618,000	6.50	36,517,000
Alfalfa	1929	24,078	1.91	46,000	11.72	539,000
	1930	14,200	2.18	31,000	12.50	388,000
	1931	10,800	3.00	32,000	8.35	267,000
Fodder corn	1929	87,879	10.07	885,000	4.86	4,301,000
	1930	70,800	8.47	600,000	6.00	3,600,000
	1931	42,651	9.90	422,000	3.50	1,477,000
Ontario—						
Wheat	1929	798,272	24.7	19,751,000	1.26	24,905,000
	1930	776,000	26.1	20,226,000	0.72	14,563,000
	1931	625,711	27.6	17,246,000	0.52	8,968,000
Oats	1929	2,335,310	31.5	73,640,000	0.62	45,657,000
	1930	2,469,000	39.5	97,482,000	0.30	29,245,000
	1931	2,343,884	33.5	78,520,000	0.25	19,630,000
Barley	1929	622,063	29.0	18,032,000	0.78	14,065,000
	1930	610,000	34.3	20,911,000	0.39	8,155,000
	1931	439,483	30.7	13,492,000	0.37	4,992,000
Fall rye	1929	52,023	16.8	873,000	0.99	864,000
	1930	53,000	17.7	937,000	0.55	515,000
	1931	56,398	17.7	998,000	0.42	419,000
Peas	1929	79,523	15.5	1,236,000	1.65	2,039,000
	1930	80,000	19.8	1,581,000	1.25	1,976,000
	1931	60,175	16.6	999,000	0.63	629,000
Beans	1929	63,732	17.5	1,113,000	3.18	3,539,000
	1930	68,000	13.3	905,000	2.10	1,901,000
	1931	73,833	15.6	1,152,000	0.58	668,000
Buckwheat	1929	294,388	18.9	5,562,000	0.87	4,839,000
	1930	275,000	20.6	5,676,000	0.60	3,406,000
	1931	178,093	20.5	3,651,000	0.42	1,533,000
Mixed grains	1929	892,897	33.5	29,904,000	0.74	22,129,000
	1930	958,000	39.2	37,512,000	0.40	15,005,000
	1931	999,568	34.7	34,685,000	0.36	12,487,000
Flaxseed	1929	5,492	8.5	47,000	2.38	112,000
	1930	5,200	9.8	51,000	1.45	74,000
	1931	7,065	10.7	76,000	1.05	80,000
Corn for husking	1929	120,000	37.1	4,450,000	1.00	4,450,000
	1930	130,000	39.6	5,149,000	0.85	4,377,000
	1931	124,495	42.3	5,266,000	0.40	2,106,000
Potatoes	1929	148,435	57.2	8,484,000	1.82	15,441,000
	1930	159,000	69.0	10,965,000	0.80	8,772,000
	1931	169,604	71.0	12,042,000	0.39	4,696,000
Turnips, etc.	1929	104,674	156.7	16,400,000	0.40	6,563,000
	1930	105,000	172.6	18,125,000	0.40	7,250,000
	1931	87,431	172.0	15,038,000	0.20	3,008,000
Hay and clover	1929	3,493,175	1.65	5,755,000	11.47	66,010,000
	1930	3,329,000	1.58	5,263,000	10.25	53,946,000
	1931	3,162,478	1.66	5,250,000	8.22	43,155,000
Alfalfa	1929	685,880	2.33	1,596,000	12.26	19,567,000
	1930	642,000	2.20	1,410,000	11.75	16,568,000
	1931	431,525	2.50	1,079,000	10.00	10,790,000

Area, Yield and Value of Principal Field Crops in Canada, by Provinces, 1929-31—continued.

Field Crop.	Year.	Area.	Yield per Acre.	Total Yield.	Average Price per Bushel.	Total Value.
		acres.	tons.	tons	per ton	\$
Ontario—concluded.						
Fodder corn.....	1929	287,566	7.73	2,221,000	4.31	9,573,000
	1930	312,000	8.39	2,619,000	4.50	11,786,000
	1931	266,859	8.67	2,314,000	4.00	9,256,000
Sugar beets.....	1929	36,864	8.25	304,000	6.66	2,025,000
	1930	38,000	8.90	340,000	7.00	2,380,000
	1931	38,047	9.30	354,000	6.00	2,124,000
			bush.	bush.	per bush.	
Manitoba—						
Wheat.....	1929	2,300,615	12.4	28,565,000	1.06	30,279,000
	1930	2,470,000	17.7	43,600,000	0.55	23,980,000
	1931	2,577,780	10.5	27,000,000	0.41	11,070,000
Oats.....	1929	1,558,404	19.7	30,740,000	0.54	16,600,000
	1930	1,590,000	31.8	50,562,000	0.21	10,618,000
	1931	1,495,944	17.0	25,500,000	0.19	4,845,000
Barley.....	1929	2,181,895	16.7	36,518,000	0.54	19,720,000
	1930	1,991,000	25.1	49,974,000	0.17	8,496,000
	1931	1,112,863	13.8	15,400,000	0.21	3,234,000
Fall rye.....	1929	60,171	16.6	1,000,000	0.86	860,000
	1930	83,000	18.5	1,536,000	0.23	353,000
	1931	33,799	14.2	480,000	0.24	115,000
Spring rye.....	1929	24,869	12.4	309,000	0.85	263,000
	1930	30,000	17.2	516,000	0.23	119,000
	1931	15,329	11.8	181,000	0.24	43,000
All rye.....	1929	85,040	10.4	1,309,000	0.86	1,123,000
	1930	113,000	18.2	2,052,000	0.23	472,000
	1931	49,128	13.4	661,000	0.24	158,000
Peas.....	1929	1,476	22.6	33,000	1.74	57,000
	1930	1,300	17.0	22,000	1.05	23,000
	1931	1,300	16.0	21,000	1.05	22,000
Buckwheat.....	1929	6,036	15.0	91,000	1.05	96,000
	1930	2,900	15.1	44,000	0.70	31,000
	1931	2,800	15.8	44,000	0.55	24,000
Mixed grains.....	1929	11,569	19.1	221,000	0.62	137,000
	1930	14,500	23.9	347,000	0.23	80,000
	1931	11,324	20.5	232,000	0.21	49,000
Flaxseed.....	1929	62,474	7.1	445,000	2.42	1,077,000
	1930	112,000	6.5	728,000	1.05	764,000
	1931	97,562	4.6	450,000	0.81	365,000
			cwt.	cwt.	per cwt.	
Potatoes.....	1929	30,436	38.2	1,161,000	2.30	2,670,000
	1930	31,700	83.8	2,657,000	0.65	1,727,000
	1931	37,300	75.0	2,800,000	0.38	1,064,000
Turnips, etc.....	1929	4,642	66.5	309,000	0.96	297,000
	1930	4,800	97.9	446,000	0.65	303,000
	1931	4,500	118.0	531,000	0.44	234,000
			tons.	tons.	per ton.	
Hay and clover.....	1929	420,978	1.35	570,000	11.15	6,356,000
	1930	437,300	1.80	787,000	7.25	5,706,000
	1931	294,888	1.40	413,000	7.75	3,201,000
Alfalfa.....	1929	11,229	1.53	18,000	15.60	281,000
	1930	12,200	2.07	25,000	10.00	250,000
	1931	11,500	1.70	20,000	10.00	200,000
Fodder corn.....	1929	12,369	3.50	43,000	5.25	226,000
	1930	14,000	5.40	75,000	7.00	525,000
	1931	12,000	3.70	44,000	4.50	198,000
			bush.	bush.	per bush.	
Saskatchewan—						
Wheat.....	1929	14,445,286	11.1	160,565,000	1.03	165,382,000
	1930	14,326,000	14.4	206,700,000	0.47	97,149,000
	1931	14,775,047	8.2	121,000,000	0.38	45,980,000

6.—Area, Yield and Value of Principal Field Crops in Canada, by Provinces, 1929-31—
continued.

Field Crop.	Year.	Area.	Yield per Acre.	Total Yield.	Average Price per Bushel.	Total Value.
		acres.	bush.	bush.	\$	\$
Saskatchewan—concluded.						
Oats.....	1929	4,255,789	16.2	68,944,000	0.50	34,472,000
	1930	4,531,000	27.7	125,509,000	0.15	18,826,000
	1931	4,368,735	15.5	67,700,000	0.18	12,186,000
Barley.....	1929	2,228,604	13.8	30,755,000	0.51	15,685,000
	1930	2,016,000	20.1	40,522,000	0.12	4,863,000
	1931	1,366,092	10.5	14,340,000	0.21	3,011,000
Fall rye.....	1929	452,194	14.0	6,331,000	0.82	5,191,000
	1930	818,000	14.5	11,861,000	0.17	2,016,000
	1931	415,152	4.3	1,785,000	0.23	411,000
Spring rye.....	1929	189,444	10.4	1,970,000	0.82	1,615,000
	1930	192,000	15.7	3,014,000	0.17	512,000
	1931	95,410	6.4	611,000	0.23	141,000
All rye.....	1929	641,638	12.9	8,301,000	0.82	6,806,000
	1930	1,010,000	14.7	14,875,000	0.17	2,528,000
	1931	510,562	4.7	2,396,000	0.23	552,000
Peas.....	1929	1,503	10.0	15,000	2.25	34,000
	1930	1,650	15.8	26,000	1.10	29,000
	1931	1,300	6.0	8,000	1.00	8,000
Beans.....	1929	824	8.1	7,000	3.00	21,000
	1930	1,020	11.5	12,000	2.00	24,000
	1931	800	5.6	4,500	1.20	5,400
Mixed grains.....	1929	22,607	15.2	344,000	0.54	188,000
	1930	23,000	20.8	478,000	0.20	96,000
	1931	20,165	12.0	242,000	0.19	46,000
Flaxseed.....	1929	298,302	4.9	1,462,000	2.37	3,465,000
	1930	431,000	9.0	3,900,000	0.89	3,471,000
	1931	492,168	3.7	1,820,000	0.77	1,401,000
Potatoes.....	1929	41,637	cwt. 27.6	cwt. 1,149,000	per cwt. 2.62	3,010,000
	1930	41,800	68.7	2,872,000	0.81	2,326,000
	1931	41,732	58.0	2,420,000	0.51	1,234,000
Turnips, etc.....	1929	3,196	22.9	73,000	1.50	110,000
	1930	3,830	60.7	232,000	0.75	174,000
	1931	3,100	43.0	133,000	0.55	73,000
Hay and clover.....	1929	460,437	tons. 1.09	tons. 502,000	per ton. 11.48	5,763,000
	1930	460,900	1.51	696,000	8.25	5,742,000
	1931	171,538	1.17	201,000	7.10	1,427,000
Alfalfa.....	1929	10,344	1.41	15,000	13.44	202,000
	1930	11,400	1.94	22,000	12.00	264,000
	1931	9,800	1.32	13,000	9.00	117,000
Fodder corn.....	1929	10,065	1.05	11,000	10.22	112,000
	1930	10,700	2.71	29,000	7.00	203,000
	1931	8,600	1.56	13,000	4.70	61,000
Alberta—						
Wheat.....	1929	7,551,215	bush. 12.3	bush. 92,534,000	per bush. 1.02	94,385,000
	1930	7,164,000	20.5	147,000,000	0.45	66,150,000
	1931	7,999,895	17.0	136,000,000	0.36	48,960,000
Oats.....	1929	1,917,744	21.9	41,936,000	0.48	20,129,000
	1930	2,165,000	36.0	77,940,000	0.15	11,691,000
	1931	2,447,288	37.0	90,500,000	0.18	16,290,000
Barley.....	1929	703,704	17.8	12,514,000	0.50	6,257,000
	1930	748,000	25.4	18,999,000	0.14	2,660,000
	1931	723,772	28.7	20,800,000	0.21	4,368,000
Fall rye.....	1929	99,805	15.7	1,571,000	0.81	1,273,000
	1930	137,000	14.5	1,987,000	0.15	298,000
	1931	93,162	6.5	610,000	0.22	134,000

—Area, Yield and Value of Principal Field Crops in Canada, by Provinces, 1929-31—
continued.

Field Crop.	Year.	Area.	Yield per Acre.	Total Yield.	Average Price per Bushel.	Total Value.
		acres.	bush.	bush.	\$	\$
Alberta—concluded.						
Spring rye.....	1929	95,734	8.4	801,000	0.79	633,000
	1930	110,000	15.7	1,727,000	0.15	259,000
	1931	58,857	8.3	490,000	0.22	108,000
All rye.....	1929	195,539	12.0	2,372,000	0.80	1,906,000
	1930	247,000	15.0	3,714,000	0.15	557,000
	1931	152,019	7.2	1,100,000	0.22	242,000
Peas.....	1929	1,483	12.3	18,000	1.60	29,000
	1930	1,300	16.0	21,000	1.10	23,000
	1931	1,300	15.0	20,000	1.50	30,000
Beans.....	1929	377	8.0	3,000	2.40	7,000
	1930	300	12.0	3,600	1.50	5,400
	1931	400	11.0	4,400	1.20	5,000
Mixed grains.....	1929	15,290	23.4	358,000	0.65	233,000
	1930	17,900	31.3	560,000	0.17	95,000
	1931	17,909	33.2	595,000	0.19	113,000
Flaxseed.....	1929	12,639	5.0	63,000	2.22	140,000
	1930	28,000	12.0	335,000	0.95	318,000
	1931	28,831	6.9	200,000	0.72	144,000
Potatoes.....	1929	27,822	36.7	1,022,000	2.66	2,719,000
	1930	30,100	84.0	2,536,000	0.80	2,029,000
	1931	35,596	78.0	2,776,000	0.42	1,166,000
Turnips, etc.....	1929	4,858	66.1	321,000	1.27	408,000
	1930	3,100	101.2	314,000	0.75	236,000
	1931	3,200	126.0	403,000	0.30	121,000
Hay and clover.....	1929	343,752	1.12	384,000	13.23	5,080,000
	1930	351,800	1.47	517,000	9.00	4,653,000
	1931	287,721	1.37	394,000	7.50	2,955,000
Alfalfa.....	1929	38,072	2.14	82,000	14.89	1,221,000
	1930	33,200	2.10	70,000	13.00	910,000
	1931	33,200	2.19	73,000	10.00	730,000
Fodder corn.....	1929	13,500	3.13	42,000	6.50	273,000
	1930	7,200	3.75	27,000	7.00	189,000
	1931	7,000	3.55	25,000	4.00	100,000
Grain hay.....	1929	1,600,000	1.25	2,000,000	12.00	24,000,000
	1930	1,750,000	1.75	3,063,000	6.50	19,910,000
	1931	1,750,000	2.00	3,500,000	6.00	21,000,000
Sugar beets.....	1929	6,600	9.07	60,000	7.79	467,000
	1930	14,500	9.00	131,000	6.55	858,000
	1931	12,600	8.33	105,000	6.50	683,000
British Columbia—			bush.	bush.	per bush.	
Wheat.....	1929	59,319	23.5	1,395,000	1.39	1,946,000
	1930	61,000	21.7	1,321,000	0.85	1,126,000
	1931	64,827	24.4	1,580,000	0.66	1,043,000
Oats.....	1929	89,717	49.8	4,468,000	0.72	3,217,000
	1930	91,000	46.1	4,195,000	0.45	1,888,000
	1931	85,647	51.5	4,411,000	0.38	1,676,000
Barley.....	1929	9,074	31.5	286,000	0.97	277,000
	1930	10,000	29.5	295,000	0.63	186,000
	1931	9,531	32.6	311,000	0.50	156,000
Spring rye.....	1929	6,013	20.2	121,000	1.04	126,000
	1930	7,000	17.1	120,000	0.72	86,000
	1931	3,971	20.3	81,000	0.55	45,000
Peas.....	1929	3,665	25.2	92,000	2.20	202,000
	1930	4,000	26.4	106,000	1.40	148,000
	1931	2,715	25.1	68,000	1.40	95,000

6.—Area, Yield and Value of Principal Field Crops in Canada, by Provinces, 1929-31—concluded.

Field Crop.	Year.	Area.	Yield per Acre.	Total Yield.	Average Price per Bushel.	Total Value.
		acres.	bush.	bush.	\$	\$
British Columbia—concluded.						
Beans.....	1929	650	21.5	14,000	2.50	35,000
	1930	800	21.8	17,000	1.70	29,000
	1931	650	21.5	14,000	1.70	24,000
Mixed grains.....	1929	4,886	37.1	181,000	0.90	163,000
	1930	5,000	35.2	176,000	0.53	93,000
	1931	2,289	40.1	92,000	0.42	39,000
Flaxseed.....	1929	456	15.0	7,000	1.75	12,000
	1930	300	14.0	4,000	1.05	4,000
	1931	275	11.2	3,000	1.00	3,000
Potatoes.....	1929	14,488	93.0	1,347,000	2.60	3,502,000
	1930	18,000	96.1	1,730,000	1.50	2,595,000
	1931	20,365	108.0	2,199,000	0.82	1,803,000
Turnips, etc.....	1929	7,226	203.0	1,467,000	1.11	1,628,000
	1930	7,000	176.0	1,233,000	1.10	1,356,000
	1931	4,063	228.0	926,000	0.60	556,000
Hay and clover.....	1929	177,800	1.98	352,000	17.20	6,054,000
	1930	183,000	1.82	333,000	17.50	5,828,000
	1931	143,543	2.07	297,000	13.00	3,861,000
Alfalfa.....	1929	29,348	2.65	78,000	17.60	1,373,000
	1930	31,000	2.64	82,000	18.25	1,497,000
	1931	40,585	3.08	125,000	14.50	1,813,000
Fodder corn.....	1929	6,727	10.75	72,000	8.00	576,000
	1930	6,000	10.71	64,000	7.00	448,000
	1931	3,838	10.55	40,000	6.00	240,000
Grain hay.....	1929	47,095	2.10	99,000	13.00	1,287,000
	1930	48,000	2.00	96,000	14.00	1,344,000
	1931	50,000	2.25	113,000	10.00	1,130,000

Acreages under Pasture.—Table 7 gives the estimated acreages under pasture in Canada, by provinces, for the years 1925 to 1931.

7.—Estimated Acreages under Pasture in Canada, 1925-31.

Province.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	acres.	acres.	acres.	acres.	acres.	acres.	acres.
P.E. Island.....	237,450	242,157	249,637	250,092	244,729	246,592	235,000
Nova Scotia.....	842,695	870,305	843,766	866,100	866,204	866,818	866,500
New Brunswick.....	481,488	467,081	492,425	500,772	487,840	490,500	474,000
Quebec.....	3,636,000	3,672,360	3,745,807	3,858,181	3,944,443	3,950,000	3,686,000
Ontario.....	3,193,941	3,077,424	3,012,786	3,000,172	3,134,614	3,149,460	3,031,770
Manitoba.....	238,483	222,039	240,485	252,689	253,950	264,300	239,800
Saskatchewan.....	333,393	382,403	426,927	408,670	406,100	419,000	400,300
Alberta.....	309,589	288,962	285,719	289,973	319,338	396,400	384,900
British Columbia.....	63,484	53,719	56,141	62,192	63,865	66,604	69,270
Indian Reserves.....	28,111	31,990	36,601	39,202	47,237	39,839	39,500
Totals.....	9,364,634	9,308,440	9,390,294	9,528,043	9,768,320	9,889,513	9,428,100

The above figures are not entirely comprehensive since the figures for the four western provinces are "seeded pasture" only. Most of the area used for pasture in these provinces is "natural" and data on land used in this way can only

properly secured by the quinquennial census. At the 1926 census, the acreages of improved and natural pasture in the three Prairie Provinces were as follows:—

Province.	Improved Pasture.	Natural Pasture.
	acres.	acres.
Manitoba.....	311,818	3,553,590
Saskatchewan.....	305,164	13,612,460
Alberta.....	302,417	12,210,315

The figures for the Maritime Provinces, Quebec and Ontario include all pasture, improved and natural.

The areas under grazing leases in the Western Provinces as at Mar. 31, 1931, are reported by the Dominion Lands Administration Branch of the Department of the Interior as follows:—

Province.	Number of Leases.	Acres.
Manitoba.....	261	101,401
Saskatchewan.....	6,751	3,355,439
Alberta.....	3,917	3,208,289
British Columbia.....	413	462,979
Totals.....	11,342	7,128,108

Average Yields per Acre.—Table 8 gives, for the years 1924 to 1931, the average yields per acre of the various field crops, together with the long-time average yields per acre.

Table 8.—Annual Average Yields per Acre of Field Crops for Canada from 1924 to 1931, with Long-time Averages.

Field Crop.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.	Long-time Average.
	bush.	bush.	bush.	bush.	bush.	bush.	bush.	bush.	bush.
Canada—									
Wheat.....	11.9	19.0	17.8	21.4	23.5	12.1	16.9	11.6	17.1
Oats.....	28.0	32.0	30.1	33.2	34.4	22.7	31.9	25.5	32.3
Barley.....	26.1	24.7	27.4	27.7	27.9	17.3	24.3	17.9	25.2
Rye.....	15.5	14.2	16.2	20.9	17.4	13.3	15.2	6.8	16.1
Peas.....	18.0	18.6	18.2	18.5	16.8	15.8	18.3	16.5	16.9
Beans.....	16.6	18.4	16.2	15.5	16.7	17.3	14.6	15.7	16.8
Buckwheat.....	25.8	22.2	21.6	23.1	21.7	20.3	22.2	20.6	22.4
Mixed grains.....	37.7	38.5	35.5	37.5	35.3	32.0	36.9	33.2	34.6
Flaxseed.....	7.6	7.4	8.1	10.3	9.6	5.4	8.7	4.1	8.8
Corn for husking.....	40.7	44.2	37.3	32.4	37.7	34.1	36.1	41.5	49.3
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
Potatoes.....	100.9	77.0	89.7	81.2	83.8	73.4	84.4	90.0	89.0
Turnips, etc.....	205.1	182.2	172.9	188.9	215.5	176.3	181.8	191.0	189.0
	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.
Hay and clover.....	1.5	1.6	1.5	1.7	1.6	1.5	1.5	1.6	1.5
Fodder corn.....	8.0	9.1	8.8	7.5	8.3	7.9	8.2	8.4	9.0
Sugar beets.....	9.3	10.6	11.2	8.9	8.4	8.4	9.0	9.1	9.4
Alfalfa.....	2.7	2.5	2.5	2.4	2.4	2.3	2.2	2.5	2.4

Grain Yields of the Prairie Provinces.—Final estimates of the acreages and yields of the grain crops of the Prairie Provinces (Manitoba, Saskatchewan and Alberta) are given for 1931, in Table 9, together with comparative data for 1929 and 1930.

9.—Areas and Yields of Wheat, Oats, Barley, Rye and Flaxseed in the Prairie Provinces 1929-31.

Province and Crop.	1929.	1930.	1931.	1929.	1930.	1931.
	acres.	acres.	acres.	bush.	bush.	bush.
Prairie Provinces—						
Wheat.....	24,297,116	23,960,000	25,352,722	281,664,000	397,300,000	284,000,000
Oats.....	7,731,937	8,286,000	8,311,967	141,620,000	254,011,000	183,700,000
Barley.....	5,114,203	4,755,000	3,202,727	79,787,000	109,495,000	50,540,000
Rye.....	922,217	1,370,000	711,709	11,982,000	20,641,000	4,150,000
Flaxseed.....	373,415	571,000	618,561	1,970,000	4,963,000	2,470,000
Manitoba—						
Wheat.....	2,300,615	2,470,000	2,577,780	28,565,000	43,600,000	27,000,000
Oats.....	1,558,404	1,590,000	1,495,944	30,740,000	50,562,000	25,500,000
Barley.....	2,181,895	1,991,000	1,112,863	36,518,000	49,974,000	15,400,000
Rye.....	85,040	113,000	49,128	1,309,000	2,052,000	661,000
Flaxseed.....	62,474	112,000	97,562	445,000	728,000	450,000
Saskatchewan—						
Wheat.....	14,445,286	14,326,000	14,775,047	160,565,000	206,700,000	121,000,000
Oats.....	4,255,789	4,531,000	4,368,735	68,944,000	125,509,000	67,700,000
Barley.....	2,228,604	2,016,000	1,366,092	30,755,000	40,522,000	14,340,000
Rye.....	641,638	1,010,000	510,562	8,301,000	14,875,000	2,396,000
Flaxseed.....	298,302	431,000	492,168	1,462,000	3,900,000	1,820,000
Alberta—						
Wheat.....	7,551,215	7,164,000	7,999,895	92,534,000	147,000,000	136,000,000
Oats.....	1,917,744	2,165,000	2,447,288	41,936,000	77,940,000	90,500,000
Barley.....	703,704	748,000	723,772	12,514,000	18,999,000	20,800,000
Rye.....	195,539	247,000	152,019	2,372,000	3,714,000	1,100,000
Flaxseed.....	12,639	28,000	28,831	63,000	335,000	200,000

Stocks of Grain in Canada.—Table 10 shows the quantities of grain in farmers' hands on July 31, 1931, as compared with July 31, 1929 and 1930. Adding the stocks in the elevators and flour mills, Table 11 shows the total quantities of grain in store at the close of each of the crop years ended July 31, 1929, 1930 and 1931.

10.—Stocks of Grain in Farmers' Hands on July 31, 1931, as Compared with July 31, 1929 and 1930, with Total Production for the Previous Years.

Kind of Grain.	Total Production in 1928.	In Farmers' Hands, July 31, 1929.		Total Production in 1929.	In Farmers' Hands, July 31, 1930.		Total Production in 1930.	In Farmers' Hands, July 31, 1931.	
	000 bush.	p.c.	bush.	000 bush.	p.c.	bush.	000 bush.	p.c.	bush.
Canada—									
Wheat.....	566,726	0.99	5,617,400	304,520	1.75	5,326,000	420,672	4.63	19,459,400
Oats.....	452,153	5.86	26,478,000	282,838	4.25	12,020,000	423,148	12.43	52,603,500
Barley.....	136,391	2.34	3,190,400	102,313	2.98	3,050,000	135,160	13.03	17,618,400
Rye.....	14,618	0.64	93,400	13,161	1.26	166,000	22,019	6.37	1,403,600
Flaxseed.....	3,614	0.14	5,200	2,060	0.17	3,600	5,069	0.71	35,800

11.—Stocks of Grain in Canada on July 31, 1929, 1930 and 1931.

Quantities in—	Wheat.			Oats.		
	July 31, 1929.	July 31, 1930.	July 31, 1931.	July 31, 1929.	July 31, 1930.	July 31, 1931.
	bush.	bush.	bush.	bush.	bush.	bush.
Farmers' hands.....	5,617,400	5,326,000	19,459,400	26,478,000	12,020,000	52,603,500
Country, private, mills and mill elevators in Western Division.....	6,324,788	16,820,322	34,149,352 ¹	3,016,588	2,581,324	4,672,977 ¹
Terminal elevators in West- ern Inspection Division...	55,945,117	47,892,399	56,710,132	8,453,122	1,802,928	2,327,038
Eastern elevators.....	20,369,859	21,374,632	14,344,612	4,487,037	2,785,443	1,786,218
Flour mills (estimated).....	7,456,894	6,902,393	2,138,330 ²	1,215,228	1,471,070	761,097 ²
Transit.....	8,669,163	12,779,166	7,277,137	1,515,523	922,015	1,281,159
Totals.....	104,383,221	111,094,912	134,078,963	45,165,498	21,582,780	63,431,989
	Barley.			Rye.		
Farmers' hands.....	3,190,400	3,050,000	17,618,400	93,400	166,000	1,403,600
Country, private, mills and mill elevators in Western Division.....	1,177,615	2,671,951	2,507,566 ¹	171,695	543,093	1,271,857 ¹
Terminal elevators.....	4,145,135	13,818,834	6,582,571	1,995,256	5,416,868	9,025,628
Eastern elevators.....	1,913,220	1,856,514	1,070,315	1,265,950	1,561,892	1,849,404
Flour mills (estimated).....	48,084	94,882	85,298 ²	—	1,646	—
Transit.....	546,403	1,383,251	1,597,566	693,455	1,501,206	866,734
Totals.....	11,020,857	22,875,432	29,461,716	4,219,756	9,199,705	14,417,223
	Flaxseed.					
Farmers' hands.....	5,200	3,600	35,800			
Country, private, mills and mill elevators in Western Division.....	73,554	48,853	235,130 ¹			
Terminal elevators.....	375,409	486,895	482,846			
Eastern elevators.....	17,624	—	16,620			
Transit.....	89,700	97,310	63,558			
Totals.....	561,487	636,658	833,954			

¹Changes in the designations of elevators and mills between the taking of the 1930 and 1931 stocks result in the stocks of grain in mills and mill elevators in the Western Inspection Division being reported under this heading in 1931, whereas they appeared under "flour mills" in previous years. ²Eastern Inspection Division only.

Distribution of Wheat and Oat Crops.—The distribution of the wheat crop of Canada for the years ended July 31, 1930 and 1931, is calculated in Table 12.

12.—Distribution of the Canadian Wheat Crops, by crop years, 1929-30 and 1930-31.

NOTE.—Flour is expressed as wheat on the basis of one barrel of flour, weighing 196 lb., being equal to 43 bushels of wheat. For similar calculations extending over a series of years both for wheat and oats, see the Year Book, 1920, pp. 263-266, and the April issues of the Monthly Bulletin of Agricultural Statistics for each of the years 1920 to 1931.

Item.	Crop year ended July 31, 1930.	Crop year ended July 31, 1931.	Item.	Crop year ended July 31, 1930.	Crop year ended July 31, 1931.
	000 bush.	000 bush.		000 bush.	000 bush.
Carry-over Aug. 1, 1929; Aug. 1, 1930.....	104,383	111,095	Exports as grain.....	155,766	228,536
Gross production.....	304,520	420,672	Exports as flour.....	30,501	30,157
Loss in cleaning.....	6,730	7,740	Total exports.....	186,267	258,693
Grain not merchantable...	7,172	4,510	Retained as seed.....	43,571	39,172
Net production and carry- over.....	395,001	519,517	Milled for food.....	43,439	41,916
Imports.....	1,375	244	Carry-over July 31, 1930, and July 31, 1931.....	111,095	134,079
Available for distribution..	396,376	519,761	Balance fed on farms or otherwise disposed of..	12,004	45,901

Table 13 presents similar data for oats. The bulk of this crop is consumed as food for live stock, and the table shows approximately how the remaining portion of the crop is disposed of, including the quantities exported as grain, oatmeal and rolled oats, the quantity retained for seed and the quantity milled for home consumption, representing chiefly oatmeal and rolled oats used for human food. The carry-over represents grain in the elevators, in farmers' hands, in transit, etc., and the balance is the quantity used in Canada for feeding to live stock, this amount being estimated at 334,761,000 bushels in 1928-29, 241,232,000 bushels in 1929-30 and 323,694,000 bushels in 1930-31.

13.—Distribution of the Canadian Oat Crops, by crop years, 1929-30 and 1930-31

Item.	Crop year ended July 31, 1930.	Crop year ended July 31, 1931.	Item.	Crop year ended July 31, 1930.	Crop year ended July 31, 1931.
	000 bush.	000 bush.		000 bush.	000 bush.
Carry-over, Aug. 1, 1929; Aug. 1, 1930.....	45,165	21,583	Exports as meal, etc.....	2,169	3,129
Gross production.....	282,838	423,148	Total exports.....	4,169	11,153
Grain not merchantable....	23,866	6,896	Retained as seed.....	33,147	37,000
Net production and carry-over.....	304,137	437,833	Milled for home consumption.....	7,953	7,953
Imports.....	3,776	710	Carry-over July 31, 1930, and July 31, 1931.....	21,412	62,000
Available for distribution..	307,913	438,543	Balance for home consumption as grain.....	241,232	322,694
Exports as grain.....	2,000	7,822			

Per Capita Consumption of Wheat in Canada.—According to revised calculations, the average per capita consumption of wheat ground for human food in Canada during the ten years 1922 to 1931 was 4.4 bushels. The average range for the period was between 4.2 and 4.5 bushels. The average consumption in 1931 was estimated at 4.0 bushels. Details for the years 1919-27 were given on p. 241 of the 1929 Year Book, while annual estimates are published in the Appendix number of the Monthly Bulletin of Agricultural Statistics.

Subsection 3.—Farm Live Stock and Poultry.

The growth of the live-stock and poultry industries in Canada from decade to decade is indicated in summary statistical form in Table 14, while some authoritative details will be found in the article, "The Development of Agriculture in Canada", contributed by Dr. J. H. Grisdale to the 1921 Year Book, where it appears at pp. 202-210.

14.—Summary Statistics of the Numbers of Live Stock and Poultry in the Dominion of Canada, Censuses of 1871-1931.

	1871.	1881.	1891.	1901.	1911.	1921. ^a	1931 ^b
	No.	No.	No.	No.	No.	No.	No.
Horses.....	836,743	1,059,358	1,470,572	1,577,493	2,598,958	3,610,494	3,129,000
Cattle.....	2,624,290	3,433,989	4,120,586	5,576,451	6,526,083	8,519,484	7,990,000
Sheep.....	3,155,509	3,048,678	2,563,781	2,510,239	2,174,300	3,203,966	3,608,000
Swine.....	1,366,083	1,207,619	1,733,850	2,353,828	3,634,778	3,040,730	4,718,000
All poultry.....	—	—	14,105,102 ^c	17,922,658	31,793,261	50,325,248	65,468,000
Hens and chickens.....	—	—	12,696,701	16,651,337	29,773,457	48,021,647	61,572,000
Turkeys.....	—	—	458,306	584,569	863,182	1,096,721	2,223,000
Ducks.....	—	—	320,169	290,755	527,098	603,152	760,000
Geese.....	—	—	537,932	395,997	629,524	603,728	904,000
Hives of bees.....	144,791	—	199,288	189,986	180,372	185,530	214,000

^aIncludes 91,994 unspecified. ^bIncludes live stock elsewhere than on farms as follows: horses 158, cattle 149,995, sheep 3,499, swine 80,439, poultry 6,978,054, hives 37,425. ^cPartly estimated.

15.—Estimated Numbers and Values of Farm Live Stock in Canada, by Provinces, 1928-31.

Province and Item.	1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.
	No.	No.	No.	No.	000 \$	000 \$	000 \$	000 \$
Canada—								
Horses.....	3,376,394	3,376,487	3,295,000	3,128,996	255,469	235,971	202,013	155,908
Milch cows.....	3,782,012	3,684,766	3,683,000	3,513,000	271,567	273,817	218,822	150,090
Other cattle.....	4,989,647	5,139,866	5,254,000	4,478,000	231,287	239,713	182,263	110,933
Totals, cattle.....	8,771,659	8,824,632	8,937,000	7,991,000	502,854	513,530	401,085	261,023
Sheep.....	3,415,788	3,635,923	3,696,000	3,608,000	35,530	36,118	25,275	18,596
Swine.....	4,497,367	4,381,725	4,000,000	4,716,720	66,595	71,111	58,852	32,773
Totals.....	-	-	-	-	860,448	856,730	687,225	468,300
P. E. Island—								
Horses.....	33,695	33,241	35,570	29,582	3,401	3,202	3,272	2,189
Milch cows.....	46,439	44,728	43,200	44,000	2,989	2,728	2,290	1,540
Other cattle.....	49,061	51,881	56,300	55,000	1,717	1,920	1,802	1,210
Totals, cattle.....	95,506	96,609	99,500	99,000	4,706	4,648	4,092	2,750
Sheep.....	97,082	97,367	87,000	76,000	962	844	609	304
Swine.....	52,653	54,285	54,000	40,007	833	894	864	280
Totals.....	-	-	-	-	9,902	9,588	8,837	5,523
Nova Scotia—								
Horses.....	50,929	52,104	51,536	44,579	5,675	5,321	5,056	3,834
Milch cows.....	137,867	141,207	140,000	108,000	8,343	8,324	7,280	4,536
Other cattle.....	131,925	145,199	144,900	113,000	4,885	5,516	4,637	2,825
Totals, cattle.....	269,792	286,406	284,900	221,000	13,228	13,834	11,917	7,361
Sheep.....	270,461	277,761	289,600	195,000	2,034	2,020	1,738	975
Swine.....	55,184	47,458	43,600	43,668	954	901	741	437
Totals.....	-	-	-	-	21,891	22,076	19,446	12,607
New Brunswick—								
Horses.....	51,713	50,198	49,800	52,902	6,208	5,723	5,030	5,079
Milch cows.....	109,068	105,667	107,300	101,000	5,924	6,129	5,258	3,838
Other cattle.....	106,085	109,919	121,700	113,000	3,232	3,517	3,651	2,486
Totals, cattle.....	215,153	215,586	229,000	214,000	9,156	9,646	8,900	6,324
Sheep.....	160,514	151,257	153,300	143,000	1,294	1,210	920	572
Swine.....	76,072	66,467	67,400	84,737	1,695	1,396	1,213	847
Totals.....	-	-	-	-	18,353	17,975	16,072	12,822
Quebec—								
Horses.....	351,206	369,060	367,200	304,537	38,018	39,084	34,708	26,495
Milch cows.....	1,114,467	1,055,770	1,023,700	836,000	71,598	73,904	55,302	31,768
Other cattle.....	849,879	953,627	995,000	884,000	29,210	36,466	29,611	18,564
Totals, cattle.....	1,964,346	2,009,397	2,018,700	1,720,000	100,808	110,370	84,913	50,332
Sheep.....	863,757	865,000	870,800	732,000	8,272	7,785	5,609	4,392
Swine.....	813,309	803,644	702,800	725,398	14,669	15,213	11,240	7,254
Totals.....	-	-	-	-	161,767	172,452	136,470	88,473
Ontario—								
Horses.....	609,249	606,505	606,700	578,333	60,368	57,277	49,151	41,640
Milch cows.....	1,261,384	1,237,248	1,222,500	1,098,000	106,153	105,109	80,919	52,704
Other cattle.....	1,420,669	1,434,346	1,453,100	1,390,000	76,959	76,099	56,671	40,510
Totals, cattle.....	2,682,052	2,671,594	2,675,600	2,488,000	183,112	181,208	137,590	93,014
Sheep.....	1,014,100	1,130,395	1,134,400	1,035,000	12,320	13,355	8,795	6,210
Swine.....	1,833,538	1,681,263	1,661,500	1,379,943	24,943	25,880	22,857	11,040
Totals.....	-	-	-	-	280,743	277,720	218,393	151,904
Manitoba—								
Horses.....	351,464	361,111	359,900	326,529	26,354	23,084	18,784	13,714
Milch cows.....	248,630	222,672	251,500	289,000	17,433	15,325	13,502	10,982
Other cattle.....	430,279	461,782	483,800	389,000	20,338	21,490	16,260	8,947
Totals, cattle.....	678,909	684,454	735,300	678,000	37,771	36,815	29,762	19,929
Sheep.....	142,713	182,240	223,400	214,000	1,440	1,756	1,299	856
Swine.....	330,833	295,330	271,700	387,646	5,013	4,817	3,896	2,326
Totals.....	-	-	-	-	70,578	66,472	53,741	36,825

15.—Estimated Numbers and Values of Farm Live Stock in Canada, by Province, 1928-31—concluded.

Province and Item.	1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.
	No.	No.	No.	No.	000 \$	000 \$	000 \$	000 \$
Saskatchewan—								
Horses.....	1,135,852	1,117,362	1,071,800	1,004,156	73,830	62,572	53,590	36,1
Milch cows.....	418,506	420,004	429,000	477,000	27,203	27,300	24,882	18,6
Other cattle.....	762,873	746,909	785,900	711,000	35,092	33,611	28,149	15,6
Totals, cattle.....	1,181,379	1,166,913	1,214,900	1,188,000	62,295	60,911	50,031	34,2
Sheep.....	183,098	207,551	209,900	279,000	1,831	1,868	1,252	1,1
Swine.....	602,156	599,909	497,900	940,436	8,430	9,599	7,966	4,7
Totals.....	—	—	—	—	146,386	134,950	112,846	76,2
Alberta—								
Horses.....	740,408	733,133	698,700	731,999	37,672	35,568	28,554	23,4
Milch cows.....	341,495	345,566	348,200	447,000	23,427	25,598	20,334	18,1
Other cattle.....	955,000	944,434	939,900	690,000	45,370	45,928	32,999	16,5
Totals, cattle.....	1,299,495	1,290,000	1,288,100	1,137,000	68,803	71,526	53,333	35,2
Sheep.....	515,000	520,000	530,000	789,000	5,348	4,828	3,268	3,1
Swine.....	680,000	770,233	636,400	1,062,908	9,039	11,211	8,910	5,5
Totals.....	—	—	—	—	120,862	123,133	94,065	67,2
British Columbia—								
Horses.....	51,878	53,772	53,800	56,379	3,943	4,140	3,874	3,5
Milch cows.....	101,156	111,904	117,600	113,000	8,497	9,400	9,055	7,2
Other cattle.....	283,876	291,769	273,400	133,000	14,478	15,172	11,483	4,3
Totals, cattle.....	385,032	403,673	391,000	246,000	22,975	24,572	20,538	11,7
Sheep.....	169,057	204,352	197,600	145,000	2,029	2,452	1,778	1,0
Swine.....	53,652	63,136	64,700	51,977	1,019	1,200	1,165	1,0
Totals.....	—	—	—	—	29,966	32,364	27,355	16,2

16.—Average Values per head of Farm Live Stock in Canada, as Estimated by Crr Correspondents, 1920-31.

Province and Item.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Canada--												
Horses.....	106	83	72	63	64	69	72	76	76	70	61	61
Milch cows.....	79	51	48	47	40	51	52	61	72	74	59	59
Other cattle.....	47	28	26	26	27	31	31	39	46	47	35	35
Totals, cattle.....	59	37	35	34	34	39	41	48	57	58	45	45
Sheep.....	10	6	8	8	9	10	10	10	10	10	7	7
Swine.....	23	14	15	12	12	16	16	14	15	16	15	15
Prince Edward Island—												
Horses.....	109	84	92	80	85	84	91	91	101	96	92	92
Milch cows.....	60	38	48	43	42	50	50	51	62	61	53	53
Other cattle.....	34	21	26	22	24	28	28	32	35	37	32	32
Totals, cattle.....	43	28	34	30	33	39	39	41	49	48	41	41
Sheep.....	8	5	7	6	8	9	9	9	10	9	7	7
Swine.....	24	16	19	11	15	20	15	15	16	16	16	16
Nova Scotia—												
Horses.....	119	98	95	96	93	94	93	107	111	102	98	98
Milch cows.....	71	44	45	44	43	40	48	51	61	59	52	52
Other cattle.....	43	27	26	28	28	30	27	29	37	38	32	32
Totals, cattle.....	55	34	35	35	35	37	37	40	49	48	42	42
Sheep.....	8	4	6	6	7	7	7	7	8	7	6	6
Swine.....	24	18	18	16	15	14	18	18	17	19	17	17
New Brunswick—												
Horses.....	139	115	110	99	104	101	109	116	120	114	101	101
Milch cows.....	61	40	40	43	36	46	46	46	54	58	49	49
Other cattle.....	39	23	25	26	22	30	26	27	30	32	30	30
Totals, cattle.....	49	31	32	34	29	38	37	37	43	45	39	39
Sheep.....	8	5	6	6	6	7	8	7	8	8	6	6
Swine.....	22	17	17	16	16	19	22	20	22	21	18	18

16.—Average Values per head of Farm Live Stock in Canada, as Estimated by Crop Correspondents, 1920-31—concluded.

Province and Item.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Quebec—												
Horses.....	126	89	100	97	98	98	101	106	108	106	95	87
Milch cows.....	75	46	45	42	43	51	49	54	64	70	54	38
Other cattle.....	38	23	23	22	23	27	26	29	34	38	30	21
Totals, cattle.....	56	35	35	33	34	40	39	43	51	55	42	29
Sheep.....	10	6	8	7	8	9	9	9	10	9	6	6
Swine.....	26	16	19	15	16	18	18	17	18	19	16	10
Ontario—												
Horses.....	108	96	90	84	80	89	95	101	99	94	81	72
Milch cows.....	92	59	58	58	54	60	63	74	84	85	66	48
Other cattle.....	57	34	34	33	35	39	39	48	54	53	39	29
Totals, cattle.....	71	45	44	44	43	48	51	60	68	68	51	37
Sheep.....	12	8	9	9	11	12	12	12	12	12	8	6
Swine.....	23	13	14	12	12	15	15	13	14	15	14	8
Manitoba—												
Horses.....	114	89	84	64	62	69	70	77	75	64	52	42
Milch cows.....	71	45	42	40	39	44	46	58	70	69	54	38
Other cattle.....	44	23	25	23	23	28	29	38	47	47	34	23
Totals, cattle.....	52	30	31	29	29	33	35	45	56	54	40	29
Sheep.....	9	6	7	7	9	10	9	9	10	10	6	4
Swine.....	22	14	14	11	11	16	16	13	15	16	14	6
Saskatchewan—												
Horses.....	108	82	67	53	60	66	66	66	65	56	50	36
Milch cows.....	73	49	40	39	41	41	41	51	65	65	58	39
Other cattle.....	45	28	23	21	23	26	27	37	46	45	32	22
Totals, cattle.....	59	33	28	26	28	31	32	42	53	52	41	29
Sheep.....	8	6	7	6	9	9	9	9	10	9	6	4
Swine.....	20	14	13	10	11	16	17	13	14	16	16	5
Alberta—												
Horses.....	80	64	42	40	38	43	45	52	51	49	41	32
Milch cows.....	71	48	38	39	38	40	43	55	68	74	58	42
Other cattle.....	45	28	21	23	23	26	28	38	48	49	35	24
Totals, cattle.....	51	32	25	27	27	30	33	43	53	55	41	31
Sheep.....	10	6	7	8	10	10	10	10	10	9	6	4
Swine.....	18	13	12	10	12	15	15	13	13	15	14	5
British Columbia—												
Horses.....	126	100	78	75	71	75	78	78	76	77	72	60
Milch cows.....	125	85	69	70	65	66	68	75	84	84	77	65
Other cattle.....	72	40	33	27	33	36	35	43	51	52	42	33
Totals, cattle.....	99	50	41	39	42	44	43	51	60	61	53	48
Sheep.....	11	8	9	10	11	13	12	12	12	12	9	7
Swine.....	21	17	16	14	14	17	19	19	19	19	18	11

17.—Estimated Numbers and Values of Farm Poultry in Canada, 1929-31.

Province and Item.	No.	Average Value per Head.	Total Value.	Province and Item.	No.	Average Value per Head.	Total Value.
		\$	\$			\$	\$
Canada—				P.E. Island—			
Hens and chickens.....	1929 55,242,787	0.95	52,387,000	Hens and chickens.....	1929 871,983	1.03	898,000
	1930 56,247,000	0.82	46,149,000		1930 917,000	0.96	880,000
	1931 61,572,000	0.60	36,908,000		1931 827,000	0.85	703,000
Turkeys.....	1929 2,423,029	2.69	6,512,000	Turkeys.....	1929 10,609	3.25	34,000
	1930 2,399,000	2.31	5,547,000		1930 13,600	2.69	37,000
	1931 2,232,000	1.88	4,198,000		1931 10,000	2.50	25,000
Geese.....	1929 1,155,244	2.11	2,436,000	Geese.....	1929 31,450	2.27	71,000
	1930 1,160,000	1.84	2,131,000		1930 38,400	1.93	74,000
	1931 904,000	1.53	1,385,000		1931 30,000	1.81	54,000
Ducks.....	1929 1,111,903	1.15	1,274,000	Ducks.....	1929 10,210	1.14	12,000
	1930 989,000	1.04	1,025,000		1930 10,700	1.05	11,000
	1931 760,000	0.85	647,000		1931 11,000	1.05	12,000
Totals, poultry	1929 59,932,963	—	62,909,000	Totals, poultry	1929 924,252	—	1,015,000
	1930 60,795,000	—	54,852,000		1930 979,700	—	1,002,000
	1931 65,468,000	—	45,138,000		1931 878,000	—	794,000

17.—Estimated Numbers and Values of Farm Poultry in Canada, 1929-31—concluded

Province and Item.	No.	Average Value per Head.	Total Value.	Province and Item.	No.	Average Value per Head.	Total Value.
		\$	\$			\$	\$
Nova Scotia—				Manitoba—			
Hens and chickens.....	1929 1,070,097	0.98	1,049,000	Hens and chickens.....	1929 4,941,076	0.81	4,002,900
1930 1,100,000	0.90	990,000	1930 5,034,900	0.67	3,373,000		
1931 1,232,000	0.79	973,000	1931 5,003,000	0.56	2,802,000		
Turkeys.....	1929 15,618	3.44	54,000	Turkeys.....	1929 438,235	2.42	1,061,000
1930 16,600	3.07	51,000	1930 434,700	1.98	861,000		
1931 12,000	2.69	32,000	1931 399,000	1.79	714,000		
Geese.....	1929 19,350	2.65	51,000	Geese.....	1929 113,696	1.83	208,900
1930 19,500	2.43	47,000	1930 113,800	1.41	160,900		
1931 14,000	2.04	29,000	1931 88,000	1.18	104,000		
Ducks.....	1929 9,106	1.56	14,000	Ducks.....	1929 91,076	0.95	87,000
1930 9,800	1.22	12,000	1930 75,300	0.80	60,000		
1931 9,000	1.08	10,000	1931 57,000	0.68	39,000		
Totals, poultry	1929 1,114,171	-	1,168,000	Totals, poultry	1929 5,584,083	-	5,358,000
1930 1,145,900	-	1,100,000	1930 5,658,700	-	4,454,000		
1931 1,267,000	-	1,044,000	1931 5,547,000	-	3,659,000		
New Brunswick—				Saskatchewan—			
Hens and chickens.....	1929 942,775	1.04	980,000	Hens and chickens.....	1929 8,458,029	0.67	5,667,000
1930 1,018,100	0.93	947,000	1930 8,720,700	0.58	5,058,000		
1931 1,264,000	0.79	999,000	1931 10,651,000	0.44	4,686,000		
Turkeys.....	1929 36,182	3.50	127,000	Turkeys.....	1929 528,979	2.22	1,174,000
1930 43,200	2.98	129,000	1930 513,300	2.10	1,078,000		
1931 35,000	2.68	94,000	1931 623,000	1.52	947,000		
Geese.....	1929 17,445	2.48	43,000	Geese.....	1929 153,249	1.67	256,000
1930 18,300	2.13	39,000	1930 155,900	1.40	218,000		
1931 15,000	2.08	31,000	1931 125,000	1.10	138,000		
Ducks.....	1929 8,992	1.39	12,000	Ducks.....	1929 162,195	0.88	143,000
1930 7,700	1.27	10,000	1930 117,100	0.80	94,000		
1931 10,000	1.18	12,000	1931 108,000	0.61	66,000		
Totals, poultry	1929 1,005,394	-	1,162,000	Totals, poultry	1929 9,302,452	-	7,240,000
1930 1,087,300	-	1,125,000	1930 9,507,000	-	6,448,000		
1931 1,324,000	-	1,136,000	1931 11,507,000	-	5,837,000		
Quebec—				Alberta—			
Hens and chickens.....	1929 8,058,000	1.12	9,025,000	Hens and chickens.....	1929 6,697,998	0.74	4,957,000
1930 8,208,500	0.98	8,044,000	1930 6,784,000	0.60	4,070,000		
1931 7,624,000	0.80	6,099,000	1931 8,269,000	0.46	3,804,000		
Turkeys.....	1929 190,000	3.59	682,000	Turkeys.....	1929 649,004	2.31	1,499,000
1930 194,100	2.97	576,000	1930 614,100	1.85	1,136,000		
1931 150,000	2.40	360,000	1931 565,000	1.60	904,000		
Geese.....	1929 105,000	2.24	235,000	Geese.....	1929 116,935	1.69	198,000
1930 105,000	1.92	202,000	1930 128,000	1.40	179,000		
1931 74,000	1.60	118,000	1931 96,000	1.22	117,000		
Ducks.....	1929 72,000	1.32	95,000	Ducks.....	1929 133,942	0.98	131,000
1930 72,700	1.19	87,000	1930 99,300	0.80	79,000		
1931 84,000	0.95	80,000	1931 86,000	0.65	56,000		
Totals, poultry	1929 8,425,000	-	10,037,000	Totals, poultry	1929 7,597,879	-	6,785,000
1930 8,580,300	-	8,909,000	1930 7,625,400	-	5,464,000		
1931 7,932,000	-	6,657,000	1931 9,016,000	-	4,881,000		
Ontario -				British Columbia -			
Hens and chickens.....	1929 20,357,205	1.06	21,579,000	Hens and chickens.....	1929 3,845,624	1.10	4,230,000
1930 20,901,400	0.93	19,438,000	1930 3,562,400	0.94	3,349,000		
1931 22,380,000	0.60	13,428,000	1931 4,322,000	0.79	3,414,000		
Turkeys.....	1929 510,054	3.38	1,724,000	Turkeys.....	1929 44,348	3.55	157,000
1930 521,700	2.94	1,534,000	1930 47,700	3.04	145,000		
1931 399,000	2.55	1,017,000	1931 39,000	2.70	105,000		
Geese.....	1929 587,222	2.29	1,345,000	Geese.....	1929 10,897	2.68	29,000
1930 571,000	2.08	1,188,000	1930 10,100	2.37	24,000		
1931 453,000	1.71	775,000	1931 9,000	2.06	19,000		
Ducks.....	1929 590,610	1.24	732,000	Ducks.....	1929 33,772	1.42	48,000
1930 566,200	1.12	634,000	1930 30,200	1.26	38,000		
1931 356,000	0.93	331,000	1931 39,000	1.06	41,000		
Totals, poultry	1929 22,045,091	-	25,380,000	Totals, poultry	1929 3,934,641	-	4,464,000
1930 22,560,300	-	22,794,000	1930 3,650,400	-	3,556,000		
1931 23,588,000	-	15,551,000	1931 4,409,000	-	3,579,000		

Production and Value of Wool.—The production of wool in Canada is placed at 20,365,000 lb. from 3,608,000 sheep and lambs in 1931, as compared with 1,016,000 lb. from 3,698,800 sheep and lambs in 1930. Table 18 gives the total estimated production and value of wool for the years 1915 to 1931.

18.—Estimated Quantity and Value of Canadian Wool Clip, 1915-31.

NOTE.—Sheep on Indian reserves included.

Year.	Sheep.	Production of Wool.	Average Price per lb. of Wool.	Value.
	No.	lb.	cents.	\$
1915.....	2,038,662	12,000,000	28	3,360,000
1916.....	2,022,941	12,000,000	37	4,440,000
1917.....	2,369,358	12,000,000	59	7,000,000
1918.....	3,052,748	20,000,000	62	12,000,000
1919.....	3,421,958	20,000,000	60	12,000,000
1920.....	3,720,783	24,000,000	22	5,280,000
1921.....	3,675,860	21,251,000	14	2,975,000
1922.....	3,262,626	18,523,392	17-5	3,149,000
1923.....	2,755,273	15,539,416	20	3,160,000
1924.....	2,686,367	15,111,719	25	3,774,000
1925.....	2,757,199	15,553,045	25	3,961,000
1926.....	3,144,343	17,959,896	23	4,131,000
1927.....	3,265,727	18,672,766	22	4,108,000
1928.....	3,418,992	19,611,430	26	5,099,000
1929.....	3,638,972	20,283,000	22	4,470,000
1930.....	3,698,800	21,016,000	11	2,311,000
1931.....	3,608,000	20,365,000	8	1,644,000

Egg Production.—Table 19 gives the results of calculations indicating approximately the number and value of eggs produced on farms in Canada for the years 1923-31. The estimates relate only to hens' eggs produced on farms, and therefore do not include eggs of urban poultry, or eggs of farm turkeys, ducks, etc. In 1920 the production of eggs elsewhere than on farms amounted to 24,319,832 dozen, or 16.8 p.c. of the total production of eggs in that year, as ascertained at the census.

19.—Production and Value of Farm Eggs in Canada, 1923-31.¹

NOTE.—Includes Indian reserves.

Year.	Egg-producing Hens on Farms.	Average Production per Hen.	Total Eggs Produced.	Average Value per dozen.	Total Value of Eggs Produced.
	No.	No.	dozen.	cents.	\$
23.....	31,064,992	78	202,186,508	24	48,770,780
24.....	32,220,057	79	212,648,685	24	50,332,439
25.....	32,837,040	82	224,778,867	26	57,950,340
26.....	34,006,290	84	237,080,399	28	66,198,285
27.....	34,722,700	87	253,277,227	32	80,110,010
28.....	34,022,511	95	268,868,857	31	84,442,727
29.....	34,453,000	95	274,317,872	30	83,171,346
30.....	35,044,870	95	278,255,753	27	74,837,092
31.....	30,940,616	112	286,882,447	17	49,205,845

¹For details of egg production in 1930 and 1931, see Monthly Bulletin of Agricultural Statistics, April, 1932, p. 99.

Subsection 4.—Fur Farming.²

Origin of Fur-Farming Industry.—A short account of the origin of the fur-farming industry in Canada was given on p. 249 of the 1929 edition of the Yearbook. A fuller description of the rise of the industry in Prince Edward Island, its

²Revised by Miss F. A. Brown, Chief, Fur Statistics Branch, Dominion Bureau of Statistics. A list of publications of this Branch will be found in Chapter XXIX. For further particulars regarding fur farming the reader is referred to the Report on Fur Farms, 1929, which may be obtained from the Dominion Statistician, Ottawa.

original home, was given in the Census and Statistics Monthly for May, 1914, on p. 110, while a still more detailed account of the earlier history of the industry was given in a publication of the Commission of Conservation, Ottawa, entitled "The Fur Farming in Canada", by J. Walter Jones, B.A., B.S.A., the second edition of which was published in 1914.

Fur Farms of Canada.—The term "fur farm" includes farms devoted entirely to the raising of fur-bearing animals (principally silver foxes), together with parts of farms where the raising of fur-bearing animals is carried on as a distinct branch of the operations. Such farms increased in number from 429 in 1919 to 6,237 in 1930, or, if muskrat and beaver farms are included, to 6,524, and the industry is still rapidly growing both in numbers of farms and in numbers and varieties of fur-bearing animals on those farms. Although the fox has proved the most suited to domestication, other kinds of fur-bearing wild animals are being raised in captivity—mink, raccoon, skunk, marten, fisher and rabbit. Mink farms are now the most numerous of the miscellaneous class, raccoon farms coming second and muskrat third. A few of the fox farms also raise miscellaneous fur-bearing animals in addition to the foxes.

Capital Investment.—The earliest Dominion-wide statistics of fur farms were collected for the year 1919, and since then annual statistics have been obtained. Statistics showing the increasing numbers and values of fur-bearing animals on fur farms are given in Tables 20 and 21, the former showing an increase of eighteen fold in numbers since 1922, and the latter almost a three-fold increase in values from \$5,864,153 to \$16,197,747. The capital investment in lands and buildings in 1930 was \$8,583,346, making a grand total investment of \$24,781,093 in the industry in that year.

20.—Number of Fur-bearing Animals on Fur Farms in Canada at Dec. 31, 1922-30.¹

Kind of Animal.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
Silver fox.....	22,318	25,186	31,204	42,125	47,657	57,961	72,631	97,190	105,...
Patch or cross fox.....	1,384	1,556	1,596	1,736	1,742	1,747	1,853	2,563	3,...
Red fox.....	435	627	720	1,196	1,163	1,198	1,489	2,348	3,...
Blue fox.....	10	12	216	735	1,050	1,713	1,331	1,576	1.
Silver-blue fox.....	—	—	—	—	—	—	6	—	—
White fox.....	16	2	3	—	—	—	1	4	—
Mink.....	288	489	663	982	1,650	2,615	5,028	10,436	20.
Raccoon.....	105	159	245	445	689	1,238	1,852	2,870	3.
Skunk.....	34	92	133	129	88	111	99	78	—
Marten.....	3	11	13	35	69	112	152	187	—
Fisher.....	7	8	9	15	46	87	136	184	—
Opossum.....	—	—	—	—	—	—	—	—	—
Coyote.....	—	9	22	59	4	29	30	73	—
Badger.....	—	—	—	3	—	—	113	726	—
Lynx.....	3	2	4	3	3	2	9	10	—
Otter.....	—	—	—	—	—	—	1	2	—
Bear.....	—	—	—	—	—	—	—	—	—
Fitch.....	—	—	—	—	—	—	—	25	—
Ferret.....	—	—	—	—	—	—	—	5	—
Weasel.....	—	—	—	—	—	—	—	11	—
Nutria.....	—	—	—	—	—	—	—	—	—
Siberian hare.....	—	24	25	35	39	16	—	—	—
Chinchilla rabbit.....	—	222	351	1,215	1,843	3,085	3,464	1,438	1.
Rabbit, n.e.s.....	—	—	353	967	252	1,129	1,733	428	—
Karakul sheep.....	941	883	1,545	1,209	177	1,082	94	96	—
Muskrat ²	5,157	10,820	—	28,105	35,838	55,390	168,861	711,111	425.
Beaver ²	81	23	—	155	360	505	799	698	1.
Totals.....	30,782	40,125	37,102	79,149	92,670	128,020	259,682	832,059	568.

¹ Statistics not available.

² Based on estimates furnished by the operators of the farms.

1.—Values of Fur-bearing Animals on Fur Farms in Canada, at Dec. 31, 1922-30.¹

Kind of Animal.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Silver fox.....	5,063,127	6,119,651	8,095,181	9,530,097	10,652,304	12,824,787	14,922,378	18,047,124	13,386,171
Patch or cross fox.....	103,055	108,324	114,524	111,293	110,517	122,400	167,222	233,220	270,257
Red fox.....	8,626	10,875	14,609	23,305	21,709	28,460	46,770	91,575	77,872
Blue fox.....	2,200	1,600	39,166	126,205	149,990	221,780	172,682	196,750	174,193
Silver-blue fox.....	—	—	—	—	—	—	1,520	—	—
White fox.....	700	100	150	—	—	—	150	400	1,700
Mink.....	6,051	10,679	20,042	37,161	79,145	148,005	328,998	765,333	1,286,737
Raccoon.....	1,313	2,208	2,758	6,487	16,448	41,093	59,672	80,801	72,242
Skunk.....	396	784	857	877	778	1,100	693	341	73
Marten.....	175	950	1,200	2,805	4,870	10,510	14,310	17,340	20,660
Fisher.....	700	770	1,240	2,035	6,600	12,610	24,325	28,585	29,810
Opossum.....	—	—	—	—	—	—	—	—	25
Coyote.....	—	111	650	715	55	490	480	850	1,592
Badger.....	—	—	—	60	—	—	4,445	23,350	18,812
Lynx.....	150	50	140	150	150	100	880	825	1,600
Otter.....	—	—	—	—	—	—	70	100	—
Bear.....	—	—	—	—	—	—	—	—	—
Fitch.....	—	—	—	—	—	—	—	550	5,760
Ferret.....	—	—	—	—	—	—	—	25	5
Weasel.....	—	—	—	—	—	—	—	50	25
Nutria.....	—	—	—	—	—	—	—	—	700
Siberian hare.....	—	100	100	220	188	80	—	—	—
Chinchilla rabbit.....	—	2,230	3,705	12,865	15,303	23,648	27,711	8,627	2,089
Rabbit, n.e.s. Karakul.....	—	—	2,065	5,334	1,944	9,280	12,575	2,428	1,623
sheep.....	68,050	49,800	93,000	32,410	8,809	21,539	5,348	4,300	5,334
Muskkrat ²	7,210	16,861	—	140,525	73,308	127,921	562,749	1,725,391	755,800
Beaver ²	2,400	625	—	4,650	11,720	24,455	48,475	75,070	84,667
Totals.....	5,864,153	6,325,718	8,389,387	10,043,194	11,153,838	13,618,258	16,401,453	21,303,035	16,197,747

¹Statistics not available.²Based on estimates furnished by the operators of the farms.

Annual Revenue.—The annual revenue of the fur farmer arises from two sources, the sale of animals and the sale of pelts. Table 22 shows that the sales of animals increased from \$938,918 in 1922 to \$1,828,545 in 1930, while Table 23 indicates that in the same eight years sales of pelts have increased from \$598,607 to \$3,096,270.

22.—Values of Fur-bearing Animals Sold from Fur Farms in Canada, 1922-30.

Kind of Animal.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Silver fox.....	910,590	1,286,375	2,484,166	2,755,668	2,189,330	2,501,816	3,552,874	3,856,158	1,405,202
Patch or cross fox.....	17,725	14,469	27,423	28,687	19,803	23,350	38,675	66,554	29,296
Red fox.....	2,129	1,289	3,116	2,828	2,663	5,079	12,159	22,178	10,900
Blue fox.....	—	—	19,100	65,620	20,225	28,115	28,536	45,035	24,895
Silver-blue fox.....	—	—	—	—	—	—	550	—	—
White fox.....	—	—	100	—	—	—	—	—	161
Mink.....	1,634	4,081	8,353	15,654	25,692	58,992	140,889	407,570	301,754
Raccoon.....	1,043	489	867	3,683	4,955	7,626	18,031	17,996	13,800
Skunk.....	30	10	150	242	188	190	—	80	—
Marten.....	—	—	—	400	230	700	350	1,270	2,075
Fisher.....	—	—	100	500	825	635	2,375	4,825	4,399
Coyote.....	—	—	—	26	—	6	—	20	20
Badger.....	—	—	—	—	—	—	215	4,984	2,957
Fitch.....	—	—	—	—	—	—	—	100	1,720
Ferret.....	—	—	—	—	—	—	—	75	—
Siberian hare.....	—	—	120	252	173	58	—	—	—
Chinchilla rabbit.....	—	1,600	4,540	16,384	14,412	11,860	18,355	2,469	170
Rabbit, n.e.s. Karakul.....	—	—	1,595	2,574	133	2,689	7,861	1,071	677
sheep.....	5,767	6,180	3,800	4,752	16,000	4,215	150	200	1,500
Muskkrat.....	—	190	—	2,024	3,773	6,719	16,206	44,308	28,394
Beaver.....	—	—	—	—	—	100	200	60	625
Totals.....	938,918	1,314,683	2,553,430	2,899,294	2,298,402	2,652,150	3,837,420	4,474,953	1,828,545

23.—Value of Pelts Sold from Fur Farms in Canada, 1922-30.

Kind of Animal.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Silver fox.....	573,806	819,429	620,810	736,289	1,174,700	2,067,170	2,278,611	2,195,253	2,921,389
Patch or cross fox...	18,003	32,007	33,120	27,880	34,177	49,125	54,307	43,122	75,671
Red fox.....	4,494	5,849	8,817	14,585	13,055	21,257	21,774	18,585	21,544
Blue fox.....	75	—	—	—	60	8,053	13,516	19,144	25,311
White fox.....	—	480	—	40	—	—	—	—	2
Mink.....	723	773	329	1,888	2,044	4,546	8,916	12,471	34,631
Raccoon.....	61	165	97	242	295	1,193	1,502	3,027	2,611
Skunk.....	525	9	71	65	252	30	23	48	11
Marten.....	—	—	—	—	—	173	30	—	90
Fisher.....	—	—	—	72	85	60	112	320	40
Coyote.....	—	301	—	30	60	60	—	340	69
Badger.....	—	—	—	—	—	—	28	1,646	3,921
Lynx.....	—	—	—	—	—	—	45	—	29
Weasel.....	—	—	—	—	—	—	—	—	—
Siberian hare.....	—	—	203	97	7	—	—	—	—
Chinchilla rabbit...	—	15	85	—	178	1,701	526	806	44
Rabbit, n.e.s.....	—	—	91	195	28	182	246	263	29
Karakul sheep.....	220	1,145	1,000	—	—	800	—	—	—
Muskrat.....	—	295	—	1,930	896	8,564	9,365	9,335	9,209
Beaver.....	700	—	—	—	215	100	25	550	156
Totals.....	598,607	869,468	664,620	783,313	1,226,052	2,163,014	2,389,026	2,304,910	3,096,270

The Provincial Distribution of Fur Farming.—The statistics of Table 24 showing the capital investment in the industry by provinces, indicate that Prince Edward Island no longer holds its earlier margin of supremacy in the industry.

In value of fur-bearing animals Quebec now ranks in first place with 21·7 p.c. of the total, Ontario is next with 21·1 p.c. and Prince Edward Island, New Brunswick, Alberta, British Columbia and Saskatchewan follow with 14·6 p.c., 8·7 p.c., 8·2 p.c., 7·3 p.c. and 7·0 p.c., respectively. As regards value of land and buildings, Ontario takes first place followed by Quebec and Prince Edward Island.

24.—Number of Fur Farms, Value of Land and Buildings and Value of Fur-bearing Animals, by Provinces, 1928-30.

Province.	Fur Farms.			Value of Land and Buildings.			Value of Fur-bearing Animals.		
	1928.	1929.	1930.	1928.	1929.	1930.	1928.	1929.	1930.
	No.	No.	No.	\$	\$	\$	\$	\$	\$
P.E. Island.....	712	727	719	1,269,664	1,440,217	1,336,011	3,676,229	3,776,950	2,238,523
Nova Scotia.....	372	456	566	249,025	290,508	333,442	839,365	1,007,075	880,515
New Brunswick.....	484	739	789	474,667	603,742	656,120	1,576,811	2,177,905	1,498,240
Quebec.....	989	1,587	1,996	1,106,033	1,597,628	1,698,954	3,236,466	5,120,493	3,686,377
Ontario.....	884	1,055	1,203	1,483,618	1,893,933	1,841,226	3,247,336	3,770,441	3,378,708
Manitoba.....	170	223	308	486,505	1,125,935	524,572	967,550	1,913,271	991,688
Saskatchewan.....	112	129	213	420,762	671,304	738,744	644,799	814,412	1,006,906
Alberta.....	228	251	304	463,745	618,116	653,712	1,180,462	1,392,448	1,369,129
British Columbia...	358	379	409	576,269	768,791	763,615	959,870	1,247,065	1,051,565
Yukon Territory....	17	17	15	44,550	42,825	33,250	72,565	82,975	50,520
N. W. Territories...	—	—	2	—	—	3,700	—	—	586
Totals.....	4,326	5,513	6,524	6,574,838	9,052,999	8,583,346	16,401,453	21,303,035	16,197,747

Subsection 5.—Dairying Statistics.¹

This subsection deals with the dairy industry under the following divisions. creamery butter, factory cheese; condensed milk and milk powder; total production of dairy factories; the production of butter and cheese on farms; and closes with a summary of the total value of dairy production in the years 1925-30.

¹For fuller particulars see the Bureau's Report on Dairy Statistics, obtainable from the Dominion Statistician.

Creamery Butter.—Butter reached its maximum exportation in the year ended June 30, 1903, with 34,128,944 lb. The latest figures for the year ended Dec. 31, 1931, show an export of 10,680,500 lb. The quantity of creamery butter made in Canada in 1930 was 185,751,061 lb. (Table 25), valued at \$56,670,504, an increase in quantity from the preceding year of 14,940,831 lb. or 8.7 p.c., but a decrease in value of \$9,259,287 or 14 p.c. The average price per lb. for the whole of Canada was 30.5 cents in 1930 compared with 38.6 cents in 1929.

25.—Production and Value of Creamery Butter, by Provinces, 1928-30.

Province.	Quantities.			Values.		
	1928.	1929.	1930.	1928.	1929.	1930.
	lb.	lb.	lb.	\$	\$	\$
Prince Edward Island.....	2,036,838	1,883,292	1,746,099	784,277	745,069	567,825
Nova Scotia.....	4,479,276	4,289,930	4,733,579	1,766,868	1,777,183	1,574,254
New Brunswick.....	2,091,723	1,860,173	2,059,675	816,803	747,024	669,209
Quebec.....	52,526,248	53,489,879	60,746,665	19,975,556	20,366,452	17,851,545
Ontario.....	63,733,187	59,346,844	64,898,291	24,917,668	23,682,187	20,593,397
Manitoba.....	13,782,167	15,472,109	15,786,896	5,139,387	5,724,640	4,666,746
Saskatchewan.....	11,310,496	14,786,205	13,920,561	4,370,623	5,541,464	4,307,967
Alberta.....	14,375,636	16,004,463	17,716,744	5,374,456	5,825,248	4,968,227
British Columbia.....	3,691,468	3,677,335	4,142,551	1,556,900	1,520,515	1,471,334
Totals.....	168,027,039	170,810,230	185,751,061	64,702,538	65,929,782	56,670,504

Factory Cheese.—In 1868 the quantity of cheese exported from Canada was 6,141,570 lb. In 1904 cheese reached its maximum exportation with 233,980,716 lb., and the exports of cheese for the year ended Dec. 31, 1931, amounted to 84,788,400 lb. The production of factory cheese in 1930 totalled 119,105,203 lb., with a value of \$18,089,870, an increase in quantity from the previous year of 0.3 p.c., but a decrease in value of 15.7 p.c. (Table 26). The average prices per lb. were 15 cents in 1930 and 18 cents in 1929.

26.—Production and Value of Factory Cheese, by Provinces, 1928-30.

Province.	Quantities.			Values.		
	1928.	1929.	1930.	1928.	1929.	1930.
	lb.	lb.	lb.	\$	\$	\$
Prince Edward Island.....	1,710,943	1,391,603	870,580	360,745	243,452	129,433
Nova Scotia.....	25,230	18,867	—	5,298	3,794	—
New Brunswick.....	697,811	578,493	606,956	149,798	109,218	98,422
Quebec.....	45,183,970	35,169,815	34,059,680	9,438,302	6,239,139	5,106,866
Ontario.....	95,561,895	79,904,131	81,322,611	20,227,759	14,529,309	12,372,397
Manitoba.....	477,419	500,426	504,490	104,884	106,351	86,614
Saskatchewan.....	148,215	142,024	140,701	32,567	30,091	23,383
Alberta.....	722,048	1,001,475	1,035,352	158,404	198,047	175,392
British Columbia.....	57,088	39,452	564,833	16,703	11,929	97,363
Totals.....	144,584,619	118,746,286	119,105,203	30,494,463	21,471,330	18,089,870

Condensed Milk and Milk Powder.—The quantity of condensed milk made in Canada in 1930 was 23,360,455 lb., valued at \$2,444,033, a decrease in quantity of 2,121,964 lb. or 8.3 p.c., as compared with 1929. The quantity of evaporated milk made was 57,630,875 lb., valued at \$4,997,590, an increase of 6.1 p.c. in quantity and a decrease of 1.2 p.c. in value compared with 1929. The quantity of milk powder and skim-milk powder made in 1930 was 16,661,278 lb., valued at \$1,759,321.

Of the 26 condenseries in operation in Canada in 1930, 23 were situated in Ontario. The total value of products of condenseries in Canada was \$13,604,743. Table 22 shows the quantities and values of products other than butter and factory cheese for the years 1928, 1929 and 1930.

22.—Miscellaneous Products of Dairy Factories, 1928-30.

Product.	Quantities.			Values.		
	1928.	1929.	1930.	1928.	1929.	1930.
				\$	\$	\$
Condensed milk..... lb.	27,728,995	25,482,419	23,360,455	2,926,477	2,710,090	2,444,932
Evaporated milk..... lb.	51,654,377	53,995,117	57,630,875	4,815,638	5,060,229	4,997,609
Milk powder..... lb.	2,314,490	2,167,333	2,354,222	578,088	533,904	481,677
Skim-milk powder..... lb.	12,509,187	12,787,818	14,307,056	1,236,277	1,242,837	1,278,256
Cream powder..... lb.	114,835	115,614	90,134	57,599	59,281	45,111
Skim condensed milk... lb.	7,920,255	10,491,869	9,141,840	437,721	576,942	469,110
Condensed coffee..... lb.	250,347	247,833	200,394	44,682	43,768	30,846
Whey butter..... lb.	1,582,364	1,309,337	1,397,513	542,339	456,431	379,346
Casein..... lb.	563,061	1,211,451	1,095,960	79,726	174,641	112,320
Ice cream..... gal.	6,353,077	7,149,947	7,078,039	8,560,391	9,737,020	9,600,638
Milk sold..... gal.	43,708,410	46,979,921	44,956,336	19,369,286	20,894,287	20,332,266
Cream sold.. (lb. butter fat)	14,543,108	16,916,547	16,767,448	9,225,837	11,002,653	10,225,844
Whey cream sold.....	-	-	-	275,344	253,224	191,207
Buttermilk sold.....	-	-	-	370,336	389,008	397,804
Sundry.....	-	-	-	656,872	854,570	877,800
Totals.....	-	-	-	49,176,613	53,988,885	51,863,158

Total Production of Dairy Factories.—In Table 28 are shown the total values of all the products of dairy factories by provinces for the five years 1926 to 1930. For Canada as a whole, the figures show a decline in the latest year of nearly 2.1 p.c. All of the provinces except British Columbia show decreases for 1930 as compared with 1929.

28.—Total Values of All Products of Dairy Factories, by Provinces, 1926-30.¹

Province.	1926.	1927.	1928.	1929.	1930.
	\$	\$	\$	\$	\$
Canada.....	133,353,076	135,910,930	144,373,614	141,389,997	126,623,532
Prince Edward Island.....	1,048,728	1,143,554	1,247,128	1,096,630	845,417
Nova Scotia.....	2,939,770	3,186,845	3,234,025	3,327,593	3,233,240
New Brunswick.....	1,507,716	1,683,065	1,859,635	1,926,278	1,811,623
Quebec.....	26,444,546	29,101,969	31,784,255	29,172,614	25,469,599
Ontario.....	72,846,336	73,788,538	77,699,052	73,976,945	66,430,326
Manitoba.....	8,424,434	8,385,844	8,749,518	9,953,940	8,519,020
Saskatchewan.....	7,190,215	6,414,373	6,966,282	8,471,388	7,083,895
Alberta.....	7,817,729	6,888,049	6,810,805	7,315,386	6,343,576
British Columbia.....	5,133,602	5,318,693	6,022,914	6,149,223	6,886,841

¹The total values of dairy products in 1901 and various subsequent years are shown in the "Statistical Summary of the Progress of Canada", immediately following the Table of Contents.

Dairy Butter and Home-made Cheese.—The statistics of the foregoing tables relate entirely to the products of dairy factories. In addition, there is a large production of butter on farms, generally described as home-made or dairy butter, and a small production of home-made cheese. No annual statistics are collected of these products; the census of 1911, however, showed that the production of dairy butter in 1910 was 137,110,200 lb., value \$30,269,497, and of home-made cheese 1,371,092 lb., value \$154,088. According to the census of 1921 the production of dairy butter in 1920 was 103,487,506 lb., worth \$50,180,952, and of

home-made cheese 533,561 lb., worth \$123,283. The production of dairy butter in 1930 is estimated at approximately 84,337,000 lb., of the value of \$20,710,000, thus making the total estimated production of butter, including dairy butter, in 1930, 270,088,061 lb., valued at \$77,380,504.

Total Values of Dairy Products.—The total value of the dairy products of Canada in 1920 was estimated at \$288,836,093, including creamery butter \$63,-625,203, dairy butter \$50,180,952, factory cheese \$39,100,872, home-made cheese \$123,283, miscellaneous factory products \$22,827,460 and milk consumed fresh or otherwise used \$112,978,323. For 1930 the total is estimated at \$272,458,367, comprising: creamery butter \$56,670,504, dairy butter \$20,710,000, factory cheese \$18,089,870, home-made cheese \$63,948, miscellaneous dairy factory products \$21,305,045 and milk consumed fresh or whole \$155,619,000. Details by provinces are given for 1930 in Table 29, with Dominion totals for the five preceding years.

29.—Value of the Dairy Production of Canada by Provinces, 1930, with Dominion Totals for 1925-30.

Province.	Dairy Butter.	Creamery Butter.	Home-made Cheese.	Factory Cheese.	Miscellaneous Factory Products	Milk Consumed Fresh or Otherwise used.	All Products
	\$	\$	\$	\$	\$	\$	\$
Prince Edward Island....	280,000	567,825	100	129,433	71,125	1,638,000	2,686,483
Nova Scotia.....	1,134,000	1,574,254	48	—	1,170,823	6,722,000	10,601,125
New Brunswick.....	1,614,000	669,209	100	98,422	350,288	5,606,000	8,338,019
Quebec.....	4,333,000	17,851,545	16,000	5,106,866	2,511,183	52,018,000	81,836,594
Ontario.....	4,909,000	20,593,397	10,000	12,372,397	13,352,751	53,621,000	104,858,545
Manitoba.....	1,650,000	4,666,746	14,000	86,614	569,173	8,252,000	15,238,533
Saskatchewan.....	3,630,000	4,307,967	1,400	23,383	727,137	12,538,000	21,227,887
Alberta.....	2,534,000	4,968,227	19,000	175,392	634,787	9,550,000	17,881,406
British Columbia.....	626,000	1,471,334	3,300	97,363	1,917,778	5,674,000	9,789,775
Canada 1930.....	20,710,000	56,670,504	63,948	18,089,870	21,305,045	155,619,000	272,458,367
1929.....	28,929,000	65,929,782	82,800	21,471,330	22,091,945	153,238,000	291,742,857
1928.....	29,103,000	64,702,538	82,000	30,494,463	20,581,490	152,661,856	297,625,347
1927.....	30,433,121	65,769,986	70,654	25,522,148	18,879,335	154,257,346	294,874,590
1926.....	28,252,777	61,753,390	80,240	28,807,841	17,767,271	140,643,460	277,304,799
1925.....	32,128,799	63,008,097	95,073	36,571,556	16,882,747	136,177,373	284,863,645

Subsection 6.—Fruit Farming.

The native fruits of Canada, with the exception of the blueberry and the cranberry, are not cultivated on a commercial scale. Among the introduced fruits, the apple holds the premier place in Canadian fruit growing, the value of the commercial production of this fruit ranging between nine and twenty-one million dollars in the last nine years. An important subsidiary of the grape-growing industry is the manufacture of native wines, which has increased from an estimated value of \$706,000 in 1921 to \$5,025,000 in 1930.

For a fuller discussion of fruit farming in Canada the reader is referred to pp. 242-7 of the 1931 edition of the Year Book.

Census Statistics.—Statistics of the number of bearing and non-bearing fruit trees in 1921 were published on p. 252 of the 1925 edition, together with comparative figures for 1911 which were summarized on p. 244 of the 1931 edition. The figures for 1931 were not available at the time of going to press.

Annual Statistics of Fruit Production.—For each of the years 1919-1929, the Dominion Bureau of Statistics and the Fruit Branch of the Dominion Department of Agriculture have collected and published in co-operation statistical reports (1) of the quantities and values of commercial fruits produced in Canada, and (2) of the varieties and values of fruit trees, bushes and plants sold by nurserymen in Canada. Table 30, following, shows the estimated production and value of commercial fruits in Canada for each of the nine years 1923-31.¹

30. Estimated Production and Value of Commercial Fruits in Canada, 1923-31.

Year.	Total Quantity.	Average Price.	Total Value.	Year.	Total Quantity.	Average Price.	Total Value.
	brl.	\$	\$		bush.	\$	\$
Apples—				Cherries—			
1923.....	3,841,625	5.45	20,959,067	1923.....	203,125	3.56	722,937
1924.....	3,375,084	5.85	19,747,772	1924.....	100,340	3.36	337,740
1925.....	2,913,768	5.50	16,024,165	1925.....	114,925	3.56	409,232
1926.....	2,951,370	3.28	9,688,162	1926.....	201,646	2.86	577,007
1927.....	2,810,600	3.70	10,411,035	1927.....	216,800	3.62	784,816
1928.....	3,235,970	3.49	11,297,867	1928.....	271,250	3.08	836,150
1929.....	3,870,380	2.70	10,461,075	1929.....	253,799	3.38	856,940
1930.....	3,351,680	3.25	10,883,344	1930.....	262,322	2.83	741,371
1931.....	3,731,950	2.38	8,863,797	1931.....	230,607	2.37	546,536
Pears -	bush.			Strawberries—	quart.		
1923.....	227,335	2.42	550,587	1923.....	8,652,200	0.17	1,513,274
1924.....	196,809	2.40	471,924	1924.....	7,932,000	0.18	1,398,960
1925.....	156,422	2.13	332,735	1925.....	8,330,000	0.18	1,460,600
1926.....	266,440	1.79	475,698	1926.....	9,739,000	0.14	1,402,860
1927.....	332,200	2.00	663,730	1927.....	10,946,200	0.14	1,516,168
1928.....	255,430	1.85	473,246	1928.....	11,364,740	0.13	1,426,914
1929.....	348,688	1.88	654,501	1929.....	14,415,344	0.12	1,796,561
1930.....	437,647	1.41	615,997	1930.....	9,707,498	0.14	1,383,059
1931.....	396,150	1.13	447,782	1931.....	17,027,363	0.09	1,691,459
Plums and prunes—				Raspberries—			
1923.....	348,482	2.00	696,964	1923.....	4,496,840	0.23	1,044,061
1924.....	238,978	2.11	504,460	1924.....	2,000,450	0.20	400,090
1925.....	79,562	1.94	154,288	1925.....	1,962,000	0.21	405,820
1926.....	346,800	1.30	450,840	1926.....	4,744,500	0.15	702,330
1927.....	263,200	1.80	473,780	1927.....	5,232,700	0.15	784,905
1928.....	480,010	1.28	615,890	1928.....	4,306,860	0.17	728,666
1929.....	285,460	2.05	584,261	1929.....	5,021,424	0.18	886,644
1930.....	274,863	1.17	320,067	1930.....	3,974,210	0.23	807,447
1931.....	253,784	1.24	316,428	1931.....	5,573,362	0.15	822,334
Peaches -				Other Berries—			
1923.....	403,660	2.27	916,050	1923.....	2,527,700	0.20	494,640
1924.....	154,381	2.62	404,663	1924.....	2,532,000	0.19	500,000
1925.....	201,840	2.71	547,772	1925.....	2,700,000	0.21	524,000
1926.....	237,950	2.54	603,658	1926.....	4,195,000	0.11	476,550
1927.....	347,580	3.03	1,051,765	1927.....	3,737,000	0.13	471,410
1928.....	605,770	1.98	1,200,345	1928.....	3,324,340	0.12	399,000
1929.....	672,541	2.51	1,684,746	1929.....	4,603,703	0.12	533,844
1930.....	756,649	1.54	1,160,350	1930.....	2,380,914	0.14	341,774
1931.....	886,233	1.32	1,173,654	1931.....	—	—	—
Apricots—				Grapes—	lb.		
1923.....	4,202	4.75	19,960	1923.....	42,185,077	0.06	2,742,000
1924.....	56,650	2.25	127,462	1924.....	24,500,000	0.06	1,470,000
1925.....	18,000	3.74	67,250	1925.....	24,000,000	0.07	1,680,000
1926.....	36,210	2.48	89,800	1926.....	24,000,000	0.03	720,000
1927.....	33,341	3.47	115,693	1927.....	34,560,000	0.04	1,382,400
1928.....	12,537	2.84	35,605	1928.....	69,120,000	0.04	2,764,800
1929.....	49,900	1.65	82,335	1929.....	50,426,000	0.04	2,017,040
				1930.....	43,103,760	0.04	1,400,800
				1931.....	50,830,000	0.02	813,200

¹Reports of fruit production have been published in pamphlet form by the Dominion Bureau of Statistics in 1922, 1924, 1925, 1926, 1927, 1928, 1929 and 1930. The first report for the year 1919 was published in the Monthly Bulletin of Agricultural Statistics, August, 1920, pp. 211-222.

Tree Nursery Industry.—The first Canadian commercial nursery was established near Fonthill, Ont., and it was followed within a few years by the establishment of a nursery in Toronto by a Rochester, N.Y., firm. Since that time the industry has steadily spread as the country has developed, until to-day there are approximately 170 firms growing or dealing in nursery stock of all kinds, including fruit trees.

Table 31 shows the total numbers and values of fruit trees, bushes and plants sold by nurserymen for the four years 1928-31. For 1919 and 1920, see the Canada Year Book of 1921, p. 257; for 1921 and 1923, see the Canada Year Book of 1926, p. 241; for 1924 and 1925, see the Canada Year Book of 1929, p. 257; for 1926 and 1927, see the Canada Year Book of 1931, p. 246.

31.—Numbers and Values of Fruit Trees, Bushes and Plants, Sold by Nurserymen in Canada, years ended May 31, 1928-31.

Description of Tree, Bush or Plant.	Number Sold.				Total Value.			
	1928.	1929.	1930.	1931.	1928.	1929.	1930.	1931.
	No.	No.	No.	No.	\$	\$	\$	\$
Apples—								
Early.....	65,677	52,850	45,587	42,455	26,138	20,295	16,466	17,225
Fall.....	73,742	62,892	63,354	42,352	29,590	23,014	24,408	13,964
Winter.....	182,775	151,503	159,361	151,831	66,530	51,824	54,592	57,171
Crab apples.....	19,614	18,702	12,281	8,328	6,279	6,188	3,783	3,301
Totals, Apples.	341,808	285,947	280,583	244,966	128,537	101,321	99,249	91,663
Pears.....	39,403	34,863	35,198	41,268	19,495	15,340	15,618	20,569
Plums.....	58,388	57,693	50,686	37,168	22,972	21,263	20,033	18,555
Peaches.....	103,837	88,180	53,466	72,190	24,695	22,200	14,271	17,814
Cherries.....	58,780	51,752	47,738	48,396	29,106	25,840	22,837	25,024
Apriocots.....	2,009	312	556	926	786	154	276	496
Quinces.....	609	72	69	157	218	30	31	86
Blackberries.....	35,462	40,825	24,170	27,838	1,731	2,279	1,216	1,293
Currants.....	116,858	92,901	69,724	65,777	9,514	8,923	5,937	6,376
Grapes.....	599,617	750,083	1,047,647	483,734	38,197	47,788	75,408	39,126
Gooseberries.....	70,297	39,859	35,742	30,866	12,124	6,740	5,411	5,004
Raspberries.....	547,524	506,290	520,504	603,076	29,677	27,267	25,715	26,666
Loganberries.....	3,024	2,155	1,862	7,143	258	198	179	2,539
Strawberries.....	2,235,700	2,004,258	1,593,353	1,539,159	38,227	17,833	17,076	14,660
Tota's.....	—	—	—	—	355,537	297,176	303,257	269,906

Floriculture.—Data collected at the 1921 census show that in that year 9,957,243 square feet were under glass in greenhouse and hothouse establishments, which also possess 3,126 acres not under glass. The receipts of these establishments in that year totalled \$4,026,427, of which \$2,778,473 or 69 p.c. were for flowers and flowering plants and \$1,247,954 or 31 p.c. for vegetables and vegetable plants. According to a more recent survey, provisional figures indicate an area under glass in 1928 of 15,764,234 square feet. The production and value of floricultural and decorative plants grown in Canada and sold during the year ended May 31, 1930, was ascertained by this survey to have been \$2,879,041 as indicated by Table 32.

32.—Production and Value of Floricultural and Decorative Plants Grown in Canada and Sold during the year ended May 31, 1930.

Description.	Quantity Sold.	Average Whole-sale Price per Unit.	Total Whole-sale Value.	Description.	Quantity Sold.	Average Whole-sale Price per Unit.	Total Whole-sale Value.
	No.	\$	\$		No.	\$	\$
1. Outdoor roses...	312,798	0.33	102,022	6. Indoor plants....	909,307	—	354,800
2. Ornamental trees.....	376,623	0.28	104,118	7. Other ornamental plants.....	78,650	0.20	15,800
3. Shrubs for outdoor planting..	615,596	0.14	85,237	8. Flowering bulbs.	1,840,052	0.04	70,700
4. Perennials, etc..	541,079	0.12	63,720	9. Cut flowers.....	29,195,107	—	1,785,100
5. Annuals for transplanting..	2,388,939	0.02	44,792	10. All other varieties including the above grown outdoors.....	—	—	252,500
				Total.....	—	—	2,879,000

Subsection 7.—Special Agricultural Crops.

Maple Syrup and Sugar.—The Canada Year Book, 1924, contained a description of the process of maple sugar-making on pages 247 and 248. Table 3 gives the production and value of maple sugar and syrup in Canada for the years 1929, 1930 and 1931 as estimated by the Dominion Bureau of Statistics.¹

33.—Estimated Production and Value of Maple Sugar and Maple Syrup in Canada, by Provinces, 1929-31.

Province and Year.	Maple Sugar.			Maple Syrup.			Total Value of Sugar and Syrup.
	Quantity.	Average Price per lb.	Value.	Quantity.	Average Price per Gallon.	Value.	
	lb.	cents.	\$	gallons.	\$	\$	
Canada.....							
1929	11,698,925	18	2,162,839	2,174,084	1.82	3,955,817	6,118,656
1930	8,208,276	17	1,351,513	2,185,379	1.77	3,869,107	5,250,692
1931	5,484,100	17	930,800	1,314,700	1.98	2,606,900	3,537,700
Nova Scotia.....							
1929	106,242	34	36,122	8,015	2.49	19,957	56,079
1930	82,894	33	27,355	3,464	2.54	8,799	36,154
1931	63,600	29	18,400	3,100	2.28	7,000	25,400
New Brunswick.....							
1929	54,070	29	15,683	9,208	2.42	22,283	37,966
1930	66,711	32	21,348	2,725	2.08	5,668	27,016
1931	58,500	28	16,400	2,200	2.11	4,600	21,000
Quebec.....							
1929	11,112,534	18	2,000,256	1,666,880	1.73	2,767,021	4,767,277
1930	7,576,204	16	1,212,193	1,538,199	1.56	2,399,590	3,611,792
1931	4,726,000	16	756,000	737,000	1.44	1,061,300	1,817,300
Ontario.....							
1929	426,070	26	110,778	489,981	2.34	1,146,556	1,257,334
1930	482,467	25	120,617	640,991	2.27	1,455,050	1,575,667
1931	636,000	22	140,000	572,400	2.68	1,534,000	1,674,000

The table shows that for the whole of Canada there were estimated decreases of 2,724,176 lb. of maple sugar and 870,679 gal. of maple syrup and a decrease of \$1,712,920 in the combined value of the two products in 1931 as compared with 1929.

Sugar Beets and Beetroot Sugar.—A brief account of the development of the beetroot sugar industry in Canada will be found in the Canada Year Book, 1925, pp. 255-256. At the present time two companies are operating in Canada, the Canada and Dominion Sugar Co., Ltd., with factories at Chatham and Wallaceburg in Ontario, and the British Columbia Sugar Co., Vancouver, with a plant at Raymond, Alberta.

¹For details, see Monthly Bulletin of Agricultural Statistics for June, 1931, pp. 184-185.

Table 34 shows the area, yield and value of sugar beets grown in Canada in the years 1911-30.

34.—Area, Yield and Value of Sugar Beets in Canada and Production of Refined Beetroot Sugar, 1911-30.

(Production contracted for by factories.)

Year.	Area Grown.	Yield per Acre.	Total Yield.	Average Price per Ton.	Total Value.	Production of Refined Beetroot Sugar.
	acres.	tons.	tons.	\$	\$	lb.
1911.....	20,677	8.50	175,000	6.59	1,154,000	21,329,689
1912.....	18,900	10.50	201,000	5.00	1,005,000	26,767,287
1913.....	17,000	8.75	148,000	6.12	906,000	26,149,216
1914.....	12,100	9.00	108,600	6.00	651,000	31,314,763
1915.....	18,000	7.75	141,000	5.50	775,500	39,515,802
1916.....	15,000	4.75	71,000	6.20	440,000	17,024,377
1917.....	14,000	8.40	117,600	6.75	793,800	23,376,850
1918.....	18,000	11.25	204,000	12.71	2,593,715	50,092,835
1919.....	18,800	9.50	180,000	14.61	2,630,027	37,839,271
1920.....	34,491	9.94	343,000	15.47	5,307,243	89,280,719
1921.....	25,535	7.80	199,334	9.90	1,974,384	52,862,377
1922.....	14,955	8.55	127,807	7.56	966,521	29,911,770
1923.....	17,941	8.87	159,200	12.08	1,922,668	39,423,160
1924.....	31,111	9.50	295,177	5.78	1,704,791	85,770,709
1925.....	34,803	10.63	370,047	7.27	2,688,302	72,819,919
1926.....	30,073	8.90	267,754	8.54	2,286,761	70,388,105
1927.....	25,323	7.96	206,713	9.73	2,012,134	60,969,131
1928.....	34,961	7.14	244,930	8.33	2,041,465	64,653,348
1929.....	32,556	7.23	235,465	8.84	2,080,996	69,399,213
1930.....	40,532	9.80	397,576	8.25	3,278,625	94,624,700

At the estimated average wholesale price of 4.79c. per lb., the total value of the beetroot sugar produced in 1930 is \$4,529,944, as compared with 4.81c. per lb. and \$3,335,344 in 1929, 5.17c. per lb. and \$3,340,571 in 1928, 6.06c. per lb. and \$3,694,303 in 1927, 6.1c. per lb. and \$4,269,076 in 1926, and 7.1c. per lb. and \$5,206,624 total value in 1925.

The estimated production of sugar beets in the principal beet-sugar producing countries of the world was, in 1930, 86 million short tons from 9,999,918 acres. The production in 1930 of the largest beet-growing countries was, in thousands of short tons, as follows: Russia, 16,722; Germany, 16,444; France, 9,716; United States, 9,199; Czechoslovakia, 7,078; Poland, 5,200; Great Britain, 3,406; Italy, 3,330; Netherlands, 2,356; Belgium, 2,056; Hungary, 1,600; Denmark, 1,179; Roumania, 935.

Tobacco.¹—The census of 1931 revealed a large increase in tobacco acreage in the main areas of production, while favourable climatic conditions led to the highest production on record. In 1931, the commercial tobacco crop of Canada amounted to 51,300,000 pounds from 55,000 acres, as compared with 36,713,000 pounds from 14,444 acres in 1930. The farm value of the tobacco crop in 1931 is estimated at \$7,177,540 as compared with \$7,058,000 in 1930.

Table 35 lists the acreages, production and average yields per acre for the years 1900, 1910, 1920 and 1930. The acreages for 1911, 1921 and 1931 are also the comprehensive figures of the census. For the inter-censal years, the acreage and production statistics quoted relate to the commercial crop only. This distinction is much more necessary in Quebec than in Ontario, since a considerable part of the tobacco production of Quebec is carried out on small plots.

¹For further details, see Monthly Bulletin of Agricultural Statistics for March, 1932, pp. 63-64.

35.—Area and Yield of Tobacco in Canada, by Provinces, 1900, 1910, 1911 and 1920-5

Year.	Quebec.	Ontario.	Canada. ²	Quebec.	Ontario.	Canada. ²	Quebec.	Ontario.	Canada
	acres.	acres.	acres.	000 lb.	000 lb.	000 lb.	lb. per acre.	lb. per acre.	lb. per acre.
1900 ¹	8,661	3,144	11,906	7,565	3,504	11,267	881	1,114	—
1910 ¹	11,818	7,017	18,928	10,115	7,499	17,632	856	1,068	—
1911 ¹	12,134	13,591	25,826	—	—	—	—	—	—
1920 ¹	17,252	19,621	36,891	13,366	19,279	32,060	775	983	—
1921 ¹	9,958	6,663	16,628	—	—	—	—	—	—
1921 ¹	5,256	6,553	11,809	6,127	7,122	13,249	1,166	1,091	—
1922.....	16,573	9,189	25,762	14,916	11,032	25,948	900	1,201	—
1923.....	15,302	8,630	23,932	10,500	21,297	10,797	680	1,251	—
1924.....	8,044	13,273	21,317	6,576	12,135	18,711	817	914	—
1925.....	9,554	18,261	27,825	8,632	20,623	29,266	910	1,130	—
1926.....	9,808	23,493	33,356	8,693	20,064	28,824	886	854	—
1927.....	10,018	33,650	44,028	7,824	35,622	43,910	769	1,095	—
1928.....	10,368	32,654	43,138	8,546	33,266	41,976	824	1,019	—
1929.....	9,300	26,910	36,310	8,380	27,419	29,886	901	795	—
1930.....	8,450	32,805	41,444	8,021	28,617	36,717	901	876	—
1931.....	7,330	47,360	55,060	6,340	44,770	51,300	865	945	—

¹Census data. ²The totals for Canada include small amounts produced in other provinces, principally in British Columbia.

Onions.—Table 36 shows the area and commercial production of onions in Canada for each of the years 1928 to 1931, as estimated by the Fruit Branch of Department of Agriculture.

36.—Area and Commercial Production of Onions in Canada, 1928-31.

Province.	1928.		1929.		1930.		1931. ¹	
	acres.	tons.	acres.	tons.	acres.	tons.	acres.	tons.
Quebec.....	300	3,000	495	2,475	775	3,875	400	2.
Ontario.....	1,618	8,737	1,258	10,940	1,474	18,090	3,031	19.
British Columbia.....	1,135	11,536	1,393	13,580	1,230	10,366	1,659	15.
Totals.....	3,053	23,273	3,146	26,995	4,479	32,331	5,090	36.

¹Preliminary figures.

Flax Fibre.—Table 37, compiled from information furnished by the Economic Fibre Division of the Dominion Experimental Farms, shows the area, production and value of flax fibre and allied products in Canada for each of the years 1915-1931.

37.—Area, Production and Value of Flax Fibre, etc., in Canada, 1915-31.

Year.	Area.	Production.			Values.			
		Seed.	Fibre.	Tow.	Seed.	Fibre.	Tow.	Total.
	acres.	bush.	lb.	tons.	\$	\$	\$	\$
1915.....	4,000	48,000	1,600,000	80	76,800	320,000	2,800	399.
1916.....	5,200	25,000	600,000	75	75,000	180,000	15,000	270.
1917.....	8,000	72,000	2,800,000	—	396,000	1,540,000	—	1,936.
1918.....	20,000	110,000	6,200,000	900	930,769	1,085,000	270,000	2,235.
1919.....	20,262	90,000	4,416,000	1,162	967,500	3,975,400	581,000	4,942.
1920.....	31,390	217,000	7,440,000	1,860	434,000	5,952,000	744,000	7,130.
1921.....	6,515	52,120	1,824,200	372	469,080	1,550,570	148,800	2,168.
1922.....	1,200	10,800	360,000	96	21,600	72,000	11,520	105.
1923.....	3,300	20,000	272,650	74 ¹ / ₂	50,000	111,375	4,440	165.
1924.....	5,760	69,120	1,785,600	18 ¹ / ₂	172,800	535,500	3,750	712.
1925.....	6,200	68,200	1,440,000	2,325	136,400	201,600	116,250	454.
1926.....	4,025	48,300	—	2,075	96,600	—	111,250	207.
1927.....	4,260	36,080	—	4,260	108,240	—	213,000	321.
1928.....	6,880	41,280	—	6,880	165,120	—	344,000	509.
1929.....	6,280	32,970	—	4,500	156,607	—	236,250	392.
1930.....	6,143	62,232	—	6,086	96,684	—	273,870	370.
1931.....	4,220	35,870	25,000	3,019	53,805	4,000	120,760	178.

Hives and Honey.—A table on page 277 of the 1925 Year Book shows the production and value of honey and beeswax in 1920, according to the census of 1921. The principal honey-producing provinces were Ontario and Quebec, which between them produced in 1920 more than 94 p.c. of the recorded total of 6,461,450 lb., valued at \$1,633,251.

There are at present no uniform annual statistics of hives and honey for all the provinces, but a synopsis of the existing provincial estimates for recent years as given in the Monthly Bulletin of Agricultural Statistics for March, 1932, pp. 4-68. These estimates showed a large increase since 1920, the total estimated honey production in 1931 being about 27,867,397 lb. and the average value per lb. 6 cents.

Subsection 8.—Farm Labour and Wages.

Average Wages of Farm Help.—The average wages paid to farm helpers in Canada for the year 1931 show a considerable decrease compared with 1930. The cost of farm labour reached its highest point in 1920. In the next two years there was a rapid drop, so that the average of yearly wages including board for male help in 1922 was nearly 28 p.c. less than in 1920. Since 1922 the trend has been slightly upward, the average for 1925 representing an increase of 8 p.c. in the three years. In 1926 there was a very slight reduction, followed by increases in 1927 and 1928, and a slight decrease in 1929. In 1930, however, there was a decided reduction in the average of yearly wages and board, amounting to 11 p.c. for men and 12 p.c. for women. In 1931 further reductions of 21 p.c. for both men and women were registered.

In Table 38 the value of wages and board is given for the years 1914, 1920, 1925, 1928, 1929, 1930 and 1931, both for the summer season and for the year, distinction being made in all cases between wages and board.

38.—Average Wages and Board of Farm Help in Canada, as Estimated by Crop Correspondents, 1914, 1920, 1925 and 1928-31.

NOTE.—M=Males. F=Females.

Province.	Year.	Per Month in Summer Season.						Per Year.					
		Wages.		Board.		Wages and Board.		Wages.		Board.		Wages and Board.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Canada.....	1914	\$ 21	\$ 8	\$ 14	\$ 11	\$ 36	\$ 19	\$ 155	\$ 57	\$ 168	\$ 132	\$ 323	\$ 189
	1920	60	27	26	20	86	47	543	275	278	217	821	492
	1925	40	22	23	19	63	41	383	244	258	218	641	462
	1928	40	24	23	20	63	44	382	251	252	225	634	476
	1929	40	23	23	20	63	43	375	242	254	223	627	465
	1930	34	20	22	18	56	38	326	210	233	199	559	409
	1931	25	15	18	15	43	30	240	159	199	163	439	322
N.E. Island.....	1914	15	5	10	8	25	13	101	40	120	96	221	136
	1920	42	18	18	14	60	32	371	212	201	160	572	272
	1925	31	18	16	13	47	31	293	175	176	138	469	313
	1928	32	18	17	13	49	31	310	198	203	157	513	355
	1929	34	19	18	13	52	32	327	196	207	159	534	355
	1930	32	16	18	14	50	30	308	179	205	165	513	344
	1931	25	15	14	10	39	25	250	153	163	131	413	284
Nova Scotia.....	1914	20	7	11	8	31	15	169	59	132	96	301	155
	1920	49	21	24	17	73	38	472	218	263	190	735	408
	1925	36	18	20	15	56	33	347	199	221	161	568	360
	1928	34	17	19	15	53	32	359	200	208	163	567	363
	1929	38	19	19	15	57	34	383	212	222	179	605	391
	1930	34	17	20	14	54	31	353	187	209	157	562	344
	1931	27	15	17	14	44	29	269	161	196	155	465	316

38.—Average Wages and Board of Farm Help in Canada, as Estimated by Crop Correspondents, 1914, 1920, 1925 and 1928-31—concluded.

NOTE.—M=Males. F=Females.

Province.	Year.	Per Month in Summer Season.						Per Year.					
		Wages.		Board.		Wages and Board.		Wages.		Board.		Wages and Board.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
New Brunswick	1914	21	7	11	8	32	15	170	69	132	96	302	
	1920	56	19	23	16	79	35	531	213	254	178	785	
	1925	37	18	17	13	54	31	370	210	191	151	561	
	1928	40	18	19	15	59	33	390	204	212	169	602	
	1929	40	18	20	15	60	33	375	198	214	169	589	
	1930	34	16	20	15	54	31	335	181	215	164	550	
	1931	27	14	16	12	43	26	276	161	184	143	460	
Quebec.....	1914	21	7	13	9	34	16	140	44	156	108	296	
	1920	62	24	24	16	86	40	524	235	243	172	767	
	1925	37	19	19	13	56	32	340	190	196	141	536	
	1928	39	19	19	14	58	33	366	202	206	146	572	
	1929	41	19	20	14	61	33	369	191	208	151	577	
	1930	33	17	19	13	52	30	316	175	194	139	510	
	1931	26	14	15	11	41	25	244	143	162	118	406	
Ontario.....	1914	19	7	13	10	32	17	141	52	156	120	297	
	1920	52	25	23	19	75	44	474	259	262	211	736	
	1925	34	22	20	17	54	39	326	227	222	182	548	
	1928	36	23	22	18	58	41	348	254	244	199	592	
	1929	35	22	22	19	57	41	341	242	254	212	595	
	1930	31	21	20	17	51	33	304	229	228	194	532	
	1931	25	17	18	15	43	32	237	180	203	168	440	
Manitoba.....	1914	24	9	15	13	39	22	184	70	180	156	364	
	1920	70	34	28	24	98	58	650	312	325	247	975	
	1925	38	21	22	19	60	40	357	221	260	215	617	
	1928	38	21	23	20	61	41	353	226	258	225	611	
	1929	38	21	23	19	61	40	352	222	256	216	608	
	1930	32	18	21	18	53	36	298	194	238	204	536	
	1931	22	13	17	15	39	28	213	134	197	162	410	
Saskatchewan..	1914	24	9	17	14	41	23	162	67	204	168	366	
	1920	72	35	30	25	102	60	667	364	336	289	1,003	
	1925	42	22	24	21	66	43	396	257	268	234	664	
	1928	44	25	25	22	69	47	411	262	284	237	695	
	1929	44	24	25	22	69	46	398	256	287	240	685	
	1930	37	21	23	19	60	40	340	215	253	212	593	
	1931	23	13	19	16	42	29	215	138	203	174	418	
Alberta.....	1914	24	10	16	14	40	24	173	68	192	168	365	
	1920	76	36	31	26	107	62	697	360	341	278	1,038	
	1925	44	27	24	22	68	49	421	277	280	244	701	
	1928	46	26	26	23	72	49	450	280	295	262	745	
	1929	43	25	25	21	68	46	404	253	274	232	678	
	1930	37	21	23	20	60	41	342	223	256	222	598	
	1931	25	15	19	17	44	32	232	156	215	189	447	
British Columbia....	1914	27	13	21	18	48	31	208	108	252	216	460	
	1920	64	36	31	27	95	63	684	431	349	311	1,033	
	1925	46	26	26	21	72	47	470	282	300	232	770	
	1928	50	29	27	23	77	52	501	320	305	268	806	
	1929	49	28	27	23	76	51	482	291	310	271	792	
	1930	46	25	26	21	72	46	450	270	291	242	741	
	1931	35	20	23	19	58	39	358	228	275	228	633	

Subsection 9.—Prices of Agricultural Produce.

The average monthly cash prices of representative grades of Canadian wheat, oats, barley, flax and rye in the Winnipeg market, basis in store at Fort William and Port Arthur, will be found for each month from January, 1929, to December, 1931, in Table 39. Averages for the crop year ending July 31, 1931, show marked reduction as compared with the previous crop year. The average yearly prices

British-grown wheat, barley and oats in the home market are furnished in Table 40; in this table British currency is converted into Canadian currency at par of exchange (£=\$4.86 $\frac{2}{3}$). The average monthly prices of flour, bran and shorts at Montreal, Toronto, Winnipeg, Minneapolis and Duluth are given for 1931 in Table 41.

The yearly average prices per cwt. of Canadian livestock at Toronto, Montreal, Winnipeg and Edmonton are given for 1930 in Table 42 and the average monthly prices in 1931 at these centres and at Calgary in Table 43.

9.—Monthly Average Cash Prices per Bushel at Winnipeg of Representative Grades of Canadian Wheat, Oats, Barley, Flax and Rye, basis in store at Fort William and Port Arthur, 1929-31, and Yearly Average Prices for crop years ended July 31, 1926-31.

Month.	Wheat, No. 1 N.	Oats, No. 2 C.W.	Barley, No. 3 C.W.	Flaxseed, No. 1 N.W.C.	Rye, No. 2 C.W.
	cts.	cts.	cts.	cts.	cts.
1929.					
January.....	120.9	68.1	72.9	192.0	103.3
February.....	127.9	73.1	77.8	204.8	112.4
March.....	127.0	64.3	74.8	207.5	109.0
April.....	122.8	57.9	71.6	202.6	99.9
May.....	113.3	50.0	67.3	205.6	86.5
June.....	118.3	51.1	69.8	212.0	87.4
July.....	159.9	63.1	83.4	254.4	110.5
August.....	158.0	68.1	79.0	260.8	111.5
September.....	149.5	68.5	74.8	283.8	108.1
October.....	141.4	68.0	69.8	291.0	102.1
November.....	133.3	65.6	64.9	271.9	94.0
December.....	137.8	63.5	62.1	264.0	94.0
1930.					
January.....	130.1	59.5	56.8	251.9	85.4
February.....	117.4	59.5	50.8	250.0	72.6
March.....	106.3	55.6	46.6	244.0	60.5
April.....	109.9	53.9	48.9	243.0	66.1
May.....	108.0	49.9	44.9	219.3	62.0
June.....	103.3	47.6	39.4	211.6	53.8
July.....	95.1	43.9	39.1	178.9	52.4
August.....	92.5	40.3	39.0	162.4	55.1
September.....	78.1	33.1	31.6	143.5	42.5
October.....	72.5	32.9	28.3	129.3	37.4
November.....	64.4	28.3	23.4	105.3	30.6
December.....	55.4	26.8	25.0	97.9	30.3
1931.					
January.....	53.9	26.1	22.1	95.0	27.1
February.....	59.3	27.6	22.1	96.9	28.6
March.....	56.8	27.8	25.1	103.4	31.3
April.....	59.6	28.1	28.3	104.0	31.6
May.....	60.6	29.1	31.0	106.1	34.1
June.....	60.8	29.6	32.1	107.0	35.5
July.....	57.0	29.4	32.3	118.3	32.8
August.....	55.1	28.3	31.8	103.0	29.4
September.....	53.6	27.4	30.6	97.4	32.5
October.....	59.9	31.0	33.1	94.5	37.0
November.....	67.3	33.6	42.5	105.6	48.8
December.....	60.6	30.0	38.4	99.0	42.8
Averages for crop year ended					
July, 1926.....	151.2	49.6	63.9	213.8	89.8
July, 1927.....	146.2	58.8	72.7	195.0	99.7
July, 1928.....	146.3	65.2	85.3	189.9	129.9
July, 1929.....	124.0	58.8	71.4	202.2	100.7
July, 1930.....	124.2	58.6	60.0	247.5	80.2
July, 1931.....	64.2	29.9	28.4	114.1	34.7

40.—Yearly Average Prices of Home-Grown Wheat, Barley and Oats in England and Wales, 1902-31.

SOURCE: *London Gazette*, published pursuant to Sec. 8 of the Corn Returns Act, 1882, and the Corn Sales Act, 1921.

NOTE.—By the Corn Sales Act, 1921, the legal unit was changed from quarters of 8 bushels to long cwt., the change becoming compulsory on Jan. 1, 1923. The long cwt. is 112 lb.

Year.	Wheat.		Barley.		Oats.		Year.	Wheat.		Barley.		Oats.	
	per qr.	per bush.	per qr.	per bush.	per qr.	per bush.		per qr.	per bush.	per qr.	per bush.	per qr.	per bush.
	s. d.	\$	s. d.	\$	s. d.	\$		s. d.	\$	s. d.	\$	s. d.	\$
1902.....	28 1	0.85	25 8	0.78	20 2	0.61	1916.....	58 5	1.78	53 6	1.56	33 5	0.80
1903.....	26 9	0.81	22 8	0.69	17 2	0.52	1917.....	75 9	2.30	64 9	1.89	49 10	0.80
1904.....	28 4	0.86	22 4	0.68	16 4	0.50	1918.....	72 10	2.22	59 0	1.72	49 4	0.80
1905.....	29 8	0.90	24 4	0.74	17 4	0.53	1919.....	72 11	2.22	75 9	2.21	52 5	0.80
1906.....	28 3	0.86	24 2	0.73	18 4	0.56	1920.....	80 10	2.46	89 5	2.60	56 10	0.80
1907.....	30 7	0.93	25 1	0.76	18 10	0.57	1921.....	71 6	2.17	52 2	1.52	34 2	0.80
1908.....	32 0	0.97	25 10	0.79	17 10	0.54	1922.....	47 11	1.46	40 3	1.18	29 1	0.80
1909.....	36 11	0.82	26 10	0.82	18 11	0.58		per long cwt.	per long bush.	per long cwt.	per long bush.	per long cwt.	per long bush.
1910.....	31 8	0.96	23 1	0.70	17 4	0.53	1923.....	9 10	1.28	9 5	0.98	9 7	0.80
1911.....	31 8	0.96	27 3	0.83	18 10	0.57	1924.....	11 6	1.50	13 1	1.36	9 9	0.80
1912.....	34 9	1.06	30 8	0.93	21 6	0.65	1925.....	12 2	1.59	11 9	1.23	9 9	0.80
1913.....	31 8	0.96	27 3	0.83	19 1	0.58	1926.....	12 5	1.62	10 4	1.08	9 0	0.80
1914.....	34 11	1.06	27 2	0.83	20 11	0.64	1927.....	11 6	1.50	11 10	1.23	9 2	0.80
1915.....	52 10	1.61	37 4	1.13	30 2	0.92	1928.....	10 2	1.32	11 1	1.15	10 5	0.80
							1929.....	9 11	1.29	10 0	1.05	8 10	0.80
							1930.....	8 0	1.04	8 0	0.83	6 3	0.80
							1931.....	5 9	0.75	8 0	0.83	6 4	0.80

41.—Monthly Average Prices of Flour, Bran and Shorts at Principal Markets, 1902-31.

SOURCES: For Montreal, the *Gazette*; for Toronto, dealers' quotations; for Winnipeg and U.S. cities the *Northwestern Miller*, Minneapolis.

NOTE.—The ton=2,000 lb. and the barrel=196 lb.

Month.	Montreal.				Toronto.			
	Flour First Patents.	Flour, Ontario, Delivered at Montreal.	Bran.	Shorts.	First Patents Flour (Jute bags).	First Patents Flour (Cotton bags).	Bran.	Shorts.
	per brl. \$	per brl. \$	per ton. \$	per ton. \$	per brl. \$	per brl. \$	per ton. \$	per ton. \$
January.....	5.20 ¹	3.68	21.25	21.25	5.20 ¹	5.35	21.00	21.25
February.....	5.28 ¹	3.58	21.25	21.25	5.28 ¹	5.45	21.00	21.25
March.....	5.23 ¹	3.58	21.83	22.56	5.23 ¹	5.35	21.75	22.56
April.....	5.20 ¹	3.52	22.25	24.25	5.20 ¹	5.35	22.00	24.25
May.....	5.13 ¹	3.44	20.31	22.31	5.13 ¹	5.35	20.75	22.31
June.....	5.00 ¹	3.35	17.94	18.98	5.00 ¹	5.15	18.00	18.98
July.....	5.00 ¹	3.24	16.46 ¹	17.46	5.00 ¹	5.15	17.38	18.98
August.....	4.76 ¹	2.98	15.79	16.79	4.76 ¹	5.15	15.50	15.79
September.....	4.63 ¹	2.68	15.25	16.25	4.63 ¹	5.15	15.00	16.25
October.....	4.64 ¹	2.80	15.25	16.25	4.64 ¹	5.15	14.50	15.25
November.....	5.26 ¹	3.28	19.99	20.99	5.26 ¹	5.30	19.40	20.99
December.....	5.01 ¹	3.45	20.29	21.99	5.01 ¹	5.15	19.88	20.99

¹Carload lots—Montreal rate points, which included the Toronto district also.

41.—Monthly Average Prices of Flour, Bran and Shorts at Principal Markets, 1931—concluded.

SOURCES: For Montreal, the *Gazette*; for Toronto, dealers' quotations; for Winnipeg and U.S. cities, the *Northwestern Miller*, Minneapolis.

NOTE.—The ton=2,000 lb. and the barrel=196 lb.

Month.	Winnipeg.			Minneapolis.			Duluth.
	Flour.	Bran.	Shorts.	Flour.	Bran.	Shorts.	Flour.
	per brl. \$	per ton. \$	per ton. \$	per brl. \$	per ton. \$	per ton. \$	per brl. \$
January.....	4.95	16.00	17.00	5.29—5.55	15.62—15.75	15.12—15.25	5.15—5.20
February.....	5.07	16.60	17.60	5.22—5.43	14.00—14.60	13.10—13.60	5.20—5.35
March.....	5.15	17.00	18.00	4.95—5.18	18.37—18.63	18.00—18.12	5.20—5.35
April.....	4.75	17.00	18.00	4.90—5.20	18.38—18.75	17.75—18.50	5.20—5.35
May.....	4.75	17.00	18.00	5.05—5.38	14.00—14.25	13.69—14.12	5.20—5.35
June.....	4.85	16.20	17.20	4.89—5.20	10.90—11.20	11.70—11.95	5.33—5.88
July.....	4.85	15.00	16.00	4.43—4.68	9.56—10.50	10.25—11.38	5.04—5.19
August.....	4.61	13.40	14.40	4.42—4.70	10.00—10.60	9.80—10.50	4.81—4.96
September.....	4.50	13.00	14.00	4.35—4.80	9.50—10.00	10.00—10.38	4.59—4.74
October.....	4.08	12.00	13.00	4.39—4.81	9.25—9.63	9.25—9.63	4.26—4.41
November.....	4.56	16.20	17.20	4.95—5.29	13.40—13.90	13.90—14.20	4.80—4.95
December.....	4.48	14.75	15.75	4.64—5.01	12.50—13.00	12.50—13.00	4.68—4.83

42.—Yearly Average Prices per Cwt. of Canadian Live Stock at Principal Markets, 1930.

NOTE.—Prices of cattle are averages for the nine months beginning April, when new grading classifications went into effect.

SOURCE: Markets Intelligence Division, Live Stock Branch, Dominion Department of Agriculture.

Classification.	Toronto.	Montreal.	Winnipeg.	Edmonton.
	\$	\$	\$	\$
Steers, up to 1,050 lb., good and choice.....	8.97	8.14	7.63	7.43
Steers, up to 1,050 lb., medium.....	7.75	6.96	6.67	5.96
Steers, up to 1,050 lb., common.....	7.02	5.77	4.82	4.77
Steers, over 1,050 lb., good and choice.....	8.78	7.93	6.98	7.14
Steers, over 1,050 lb., medium.....	7.80	7.17	5.69	5.71
Steers, over 1,050 lb., common.....	7.01	6.65	4.27	4.34
Heifers, good and choice.....	8.57	7.46	6.51	6.18
Heifers, medium.....	7.53	6.39	5.55	5.46
Calves, fed, good and choice.....	11.25	10.41	9.66	8.66
Calves, fed, medium.....	9.68	—	7.60	6.68
Calves, veal, good and choice.....	11.85	9.02	9.94	9.73
Calves, veal, common and medium.....	9.20	7.46	6.00	6.01
Cows, good.....	6.67	6.48	5.44	5.55
Cows, medium.....	5.43	5.77	4.24	5.04
Bulls, good.....	6.08	6.34	4.08	3.50
Stocker and feeder steers, good.....	6.28	—	5.01	5.05
Stocker and feeder steers, common.....	5.24	—	3.76	4.26
Stock cows and heifers, good.....	5.56	—	4.64	4.74
Stock cows and heifers, common.....	5.86	—	3.47	4.00
Hogs, selects.....	12.81	12.59	11.22	11.16
Hogs, bacon.....	12.32	12.17	10.51	10.57
Hogs, butchers.....	11.94	11.78	10.68	10.41
Hogs, heavies.....	11.14	11.26	9.71	9.36
Hogs, lights and feeders.....	11.09	11.80	11.22	10.19
Lambs, good handy weights.....	9.50	8.57	8.28	7.95
Lambs, common, all weights.....	8.37	6.36	5.91	6.52
Sheep, good handy weights.....	5.38	4.76	4.63	5.11

43.—Monthly Average Prices per Cwt. of Canadian Live Stock at Principal Markets
1931.

Classification.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Montreal—												
Steers, up to 1,050 lb., good and choice.....	7.39	6.78	6.64	6.45	6.21	5.89	6.15	6.13	5.52	5.43	5.05	5.00
Heifers, good and choice.....	6.53	5.79	5.67	5.34	5.59	5.24	5.24	5.12	4.80	4.48	4.08	4.00
Calves, veal, good and choice.....	12.04	10.13	7.82	6.09	6.31	6.26	6.18	6.92	7.93	8.83	8.35	8.00
Hogs, bacon.....	10.02	8.85	7.83	8.40	8.59	8.99	9.12	7.20	6.27	5.50	5.20	4.00
Hogs, butchers.....	10.04	8.85	7.80	8.24	8.59	8.97	9.04	7.20	6.23	5.50	5.20	4.00
Lambs, good handy weights.....	8.22	8.15	7.83	-	12.57	10.39	8.02	6.91	6.41	6.20	6.44	6.40
Sheep, good handy weights.....	4.92	5.11	5.45	5.26	6.30	3.57	2.87	3.08	2.75	2.51	2.63	2.70
Toronto—												
Steers, up to 1,050 lb., good and choice.....	7.22	6.23	6.10	5.85	5.72	5.71	5.82	6.08	6.06	5.90	5.60	5.80
Heifers, good and choice.....	7.22	6.14	6.00	5.79	5.62	5.67	5.82	6.07	6.02	5.78	5.77	5.80
Calves, veal, good and choice.....	10.82	9.60	8.98	8.31	7.43	6.88	6.67	8.52	8.47	8.53	7.23	7.30
Hogs, bacon.....	10.19	8.63	7.92	8.47	8.25	8.56	9.07	7.29	5.99	5.74	5.23	4.30
Hogs, butchers.....	9.71	8.16	7.55	8.10	7.83	8.15	8.70	6.96	5.63	5.34	-	4.30
Lambs, good handy weights.....	9.56	8.85	9.21	10.66	13.79	11.04	9.36	7.86	7.44	6.80	6.59	6.30
Sheep, good handy weights.....	5.45	5.39	5.57	5.77	4.19	3.52	3.06	3.95	3.03	2.98	3.22	3.10
Winnipeg—												
Steers, up to 1,050 lb., good and choice.....	6.19	5.59	5.51	5.33	5.22	5.11	5.60	5.31	5.02	4.69	4.75	5.00
Heifers, good and choice.....	5.84	5.16	5.57	5.10	5.06	4.87	5.23	4.95	4.42	4.30	4.62	4.60
Calves, veal, good and choice.....	10.77	9.34	8.11	7.33	7.33	6.16	5.56	5.64	6.27	5.75	5.75	6.20
Hogs, bacon.....	8.70	7.47	6.91	7.27	7.42	7.61	8.07	6.35	5.16	4.71	4.20	3.80
Hogs, butchers.....	8.22	6.88	6.39	6.77	6.93	7.11	7.55	5.72	4.66	3.91	3.67	3.80
Lambs, good handy weights.....	7.88	7.36	7.52	8.50	9.05	8.98	7.64	6.29	5.80	5.65	5.57	5.70
Sheep, good handy weights.....	4.50	4.48	4.25	4.26	3.14	3.83	2.98	3.22	2.88	2.75	2.67	2.50
Calgary—												
Steers, up to 1,050 lb., good and choice.....	5.88	5.00	5.08	5.00	5.00	4.80	4.84	4.25	4.20	4.15	4.15	4.20
Heifers, good and choice.....	5.78	4.90	4.90	4.98	4.96	4.80	4.46	4.25	4.35	4.00	4.10	4.10
Calves, veal, good and choice.....	6.73	7.50	7.58	7.75	7.75	7.04	6.49	5.21	4.92	4.60	4.27	4.50
Hogs, bacon.....	8.54	7.24	6.57	7.07	7.15	7.44	8.01	6.10	5.00	4.87	4.27	3.70
Hogs, butchers.....	8.04	6.67	6.07	6.57	6.63	6.91	7.46	5.66	4.50	4.38	3.75	3.20
Lambs, good handy weights.....	6.96	6.23	6.28	7.78	8.69	9.26	7.22	5.50	4.93	5.10	4.67	4.00
Sheep, good handy weights.....	5.00	4.93	4.50	5.50	5.53	6.07	4.39	3.87	4.00	3.30	3.30	3.50
Edmonton—												
Steers, up to 1,050 lb., good and choice.....	5.89	4.87	5.06	5.17	4.85	4.78	5.55	4.77	4.56	4.25	4.37	4.50
Heifers, good and choice.....	5.92	4.78	4.95	4.94	4.82	4.76	4.79	4.42	4.33	4.00	4.17	4.25
Calves, veal, good and choice.....	9.40	9.15	8.50	8.04	7.50	6.03	5.83	5.53	5.57	5.88	5.75	5.50
Hogs, bacon.....	8.41	6.96	6.25	6.86	7.00	7.39	7.46	5.54	4.45	4.51	4.01	3.50
Hogs, butchers.....	7.91	6.28	5.76	6.40	6.50	6.87	6.91	5.03	4.01	4.00	3.50	2.90
Lambs, good handy weights.....	7.25	6.60	6.59	8.14	8.25	8.31	6.29	5.43	5.25	5.00	4.75	4.60
Sheep, good handy weights.....	5.25	4.82	4.88	5.65	5.75	5.42	4.38	3.55	3.50	3.50	3.50	3.25

Index Numbers of Agricultural Prices.—Records of the average prices received by farmers for agricultural produce have been collected annually since 1909 through the crop correspondents of the Census and Statistics Office and the Dominion Bureau of Statistics. From these records, annual index numbers have been calculated for each crop and for the field crops as a whole. In calculating the index numbers in the present instance, the base period used is 1926. Index numbers have been calculated of the yields of the various crops from year to year. From these data index numbers of the value of all field crops, weighted according to the quantity produced in each case, have been obtained. These calculations have been made, with prices for the year 1926 as a base, in Table 44.

44.—Index Numbers of Producers' Prices of Agricultural Commodities, 1913-31.

NOTE.—Average Prices, 1926 = 100.

For the formulae used in the calculation see Monthly Bulletin of Agricultural Statistics, March, 1928, p. 94.

Field Crop.	Average Prices 1926. ¹	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
	\$									
Canada—										
Wheat.....	1.09	61.5	111.9	83.5	120.2	178.0	185.3	217.4	148.6	74.3
Oats.....	0.48	66.7	100.0	75.0	106.3	143.8	162.5	166.7	110.4	70.8
Barley.....	0.52	80.8	115.3	100.0	158.8	207.7	192.3	236.5	159.6	90.4
Rye.....	0.77	85.7	107.8	100.0	142.9	210.4	193.5	181.1	172.7	93.5
Peas.....	1.75	63.4	83.4	94.3	126.9	202.3	170.9	163.4	138.3	112.0
Beans.....	2.64	71.2	87.5	115.5	204.5	282.2	204.9	169.7	147.0	109.8
Buckwheat.....	0.87	73.6	82.8	86.2	123.0	167.8	181.6	172.4	147.1	102.3
Mixed grains.....	0.66	83.3	100.0	86.4	133.3	175.8	172.7	206.1	136.4	93.8
Flaxseed.....	1.62	59.9	63.6	93.2	125.9	163.6	193.2	254.9	119.8	88.9
Corn for husking.....	1.00	64.0	71.0	71.0	107.0	184.0	175.0	134.0	116.0	83.0
Potatoes.....	1.47	55.8	55.8	68.0	91.8	115.0	110.9	107.5	110.2	87.1
Turnips, etc.....	0.60	93.3	90.0	80.0	130.0	153.3	141.7	163.3	138.3	111.7
Hay and clover.....	12.13	94.6	117.3	118.4	95.6	85.2	134.0	170.8	215.2	194.2
Grain hay.....	10.11	—	—	—	—	—	—	286.8	327.6	—
Alfalfa.....	13.30	89.1	106.5	95.3	80.4	87.1	134.1	164.3	178.8	150.0
Fodder corn.....	4.88	98.0	100.6	100.6	100.8	105.3	126.0	141.8	153.8	144.5
Sugar beets.....	6.45	94.9	92.9	85.3	96.1	104.7	158.9	168.4	198.4	100.8
All Field Crops.....	—	69.6	98.3	83.7	106.7	138.7	158.5	178.7	149.3	101.1
Field Crop.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
Canada—										
Wheat.....	78.0	61.5	111.9	112.8	100.0	91.7	73.4	96.3	44.9	34.9
Oats.....	79.2	68.8	102.1	87.5	100.0	106.3	97.9	122.9	50.0	50.0
Barley.....	88.5	80.8	134.6	101.9	100.0	126.9	107.7	113.5	35.5	50.0
Rye.....	75.3	63.6	128.6	100.0	100.0	106.5	102.6	109.1	26.0	36.4
Peas.....	105.1	98.3	100.0	94.3	100.0	100.6	105.7	117.7	84.0	48.0
Beans.....	108.0	100.8	104.9	97.7	100.0	87.9	135.2	125.0	86.0	26.1
Buckwheat.....	96.6	96.6	102.3	97.7	100.0	102.3	106.9	108.0	74.7	57.5
Mixed grains.....	90.9	89.4	107.6	98.5	100.0	109.0	107.8	115.2	63.6	56.1
Flaxseed.....	106.2	109.3	119.8	114.2	100.0	95.7	98.1	146.9	58.6	48.8
Corn for husking.....	83.0	92.0	119.0	94.0	100.0	89.0	112.0	106.0	87.0	42.0
Potatoes.....	61.2	69.4	57.8	140.1	100.0	79.6	54.4	108.2	56.5	28.9
Turnips, etc.....	90.0	98.3	73.3	93.3	100.0	76.7	78.3	88.3	73.3	46.7
Hay and clover.....	111.0	90.4	91.3	85.3	100.0	85.8	85.5	96.0	81.0	62.8
Grain hay.....	127.3	34.3	91.5	91.5	100.0	100.0	99.7	95.0	66.6	60.7
Alfalfa.....	96.0	87.1	88.0	95.6	100.0	90.5	86.5	94.1	91.1	78.0
Fodder corn.....	101.8	94.7	104.9	82.6	100.0	91.6	96.1	106.2	101.0	80.1
Sugar beets.....	122.2	100.5	105.3	94.3	100.0	120.8	112.4	119.2	106.5	94.9
All Field Crops.....	86.6	72.4	102.3	102.1	100.0	96.5	84.6	104.9	56.3	46.9

¹Prices quoted are per bushel, except for potatoes and turnips, etc., which are per cwt., and the last five items, which are per ton. For details of index numbers by provinces, see Monthly Bulletin of Agricultural Statistics, January, 1932, pp. 14-21.

The general index number fell from 1924 to 1928, especially from 1926 to 1928 and recovered strongly in 1929 but declined rapidly to reach the record low, for the period under review, of 46.9 in 1931. The commodities responsible for the decline from 1927 to 1928 were the cereals and potatoes. The root and forage crops held fairly steady and there were increases in peas, beans and buckwheat.

The severe decline of 1930 was accentuated in 1931 and marked by reductions in the prices obtained for all the agricultural commodities listed with the exception of oats, rye and barley. Reductions in the prices of wheat, flaxseed, corn and potatoes were again drastic; wheat, which has the greatest weight in the index, was mainly responsible for the decline of 55.4 points in the general index between 1929 and 1931, as well as for the temporary recovery in 1929.

Subsection 10.—Agricultural Statistics of the Census.

A selection of the more important agricultural statistics of the census of 1929 was published at pp. 269-271 of the 1929 edition of the Year Book. Further certain agricultural statistics of the Prairie Provinces collected at their quinquennial census of 1926 were published at pp. 271-273 of the same volume. The complete agricultural statistics of the census of 1921 are published in Volume V of the publications of the census of that year, while the detailed agricultural statistics of the census of the Prairie Provinces of 1926 will be found in the reports of the census of that year, issued separately for the provinces of Manitoba, Saskatchewan and Alberta.

Area Suitable for Agriculture.—Various estimates of the areas of agricultural land in Canada have been made. Such estimates must necessarily be of a very tentative character, especially in view of the fact that every advance in the art of evolving more frost-resistant and drought-resistant species of cultivated grains, etc., increases the area of potential agricultural land, while the same result follows from the introduction of improved methods of tilling the soil, as in dry farming. Of the grand total land area of Canada, estimated at 2,246,405,120 acres, 1,309,724,800 acres are within the nine provinces, and Table 45, based partly upon the census of 1931, is presented as a fair estimate of the possible farm land in these provinces under present conditions.

45.—Total Land Area of the Provinces of Canada, 1931, with Estimated Possible Farm Land and Farm Land Occupied, 1931.¹

Province.	Total Land Area.	Estimated Possible Farm Land.		Occupied as Farm Land 1931.		Per cent of Possible Farm Land Occupied.		
		acres.	p.c. of total.	acres.	p.c. of total.	1931.	1921.	1911.
Prince Edward Island.	1,397,760	1,258,190	90.0	1,191,000	85.2	94.6	96.7	95.6
Nova Scotia.	13,275,520	8,092,000	61.0	4,302,000	32.4	53.1	58.4	65.0
New Brunswick.	17,734,400	10,718,000	60.4	4,153,000	23.4	38.7	39.8	42.3
Quebec.	365,442,560	43,745,000	12.1	17,758,000	4.8	40.5	39.4	35.7
Ontario.	232,500,480	66,866,000	28.7	21,978,000	9.4	32.9	40.1	39.3
Manitoba.	143,857,280	24,700,000	17.2	15,135,000	10.5	60.9	59.2	49.3
Saskatchewan.	152,304,000	93,458,000	61.4	55,665,000	36.5	59.6	47.1	30.1
Alberta.	159,232,000	97,123,000	61.0	38,978,000	24.6	40.1	30.2	17.9
British Columbia.	223,980,800	22,608,000	10.0	3,356,000	1.5	14.9	12.6	11.2
Canada.	1,309,724,800	368,568,190	28.1	162,516,000	12.4	44.1	39.3	30.4

¹Figures based upon the 1931 census are preliminary.

Subsection 11.—Miscellaneous Agricultural Statistics.

Agricultural Irrigation.¹—Due to the transfer of the natural resources, on Oct. 1, 1930, the control of the surface waters in Alberta is now vested in the Crown, in the right of the province of Alberta, by the Water Resources Act, which came into force on April 1, 1931, and is administered by the Water Resources Office of the province. All matters that affect the control of water supply generally, as well as the inspection and authorization of works for the use of water for domestic, municipal, industrial, irrigation and other purposes and the granting of licences for such purposes are dealt with thereunder. The Director of Water Resources at Edmonton, Alberta, is responsible for all field administration. The Irrigation Districts Act of Alberta (R.S.A., 1922, c. 114) and amending statutes provide for the formation of irrigation districts, and authorize the raising of loans under by-laws adopted by the voters of the district.

Table 46 gives statistics of the larger irrigation projects in Alberta for the year 1930.

46.—Major Irrigation Projects in Southern Alberta, 1930.

Project.	Source of Supply.	Irrigable Area.	Length of Canals.	Area Irrigated in 1930.
		acres.	miles.	acres.
C.P.R. Western Section.....	Bow River.....	218,980	1,472	41,570
C.P.R. Eastern Section.....	Bow River.....	400,000	2,500	89,913
C.P.R. Lethbridge Section.....	St. Mary River.....	89,000	196	67,004
Canada Land and Irrigation Co., Ltd.....	Bow River.....	130,000	430	26,470
Taber Irrigation District.....	St. Mary River.....	21,499	96	19,322
Lethbridge Northern Irrigation District.....	Oldman River.....	100,774	573	70,007
United Irrigation District.....	Belly River.....	34,285	175	5,847
New West Irrigation District.....	Bow River.....	4,501	22	3,214
Magrath Irrigation District.....	St. Mary River.....	5,975	90	5,161
Raymond Irrigation District.....	St. Mary River.....	15,129	15	7,000
Totals.....		1,021,093	5,569	335,508

The Canadian Pacific Railway Company has constructed and is operating in the province of Alberta three large projects known as the Eastern, Western and Lethbridge sections, the last being the oldest irrigation project in Alberta. The total irrigable area that can be served by these projects is 707,980 acres. By agreement with the Canadian Pacific Railway Co., the Taber, Magrath and Raymond irrigation districts procure their water supply from the main canal of the Lethbridge Section, a further 43,603 acres being served by the canals of these districts.

¹Revised by L. C. Charlesworth, Director, Water Resources, Province of Alberta.

The total irrigable area that is served by the Canada Land and Irrigation Company's project is 130,000 acres and, in addition to this, the New West irrigation district, by agreement with the Canada Land and Irrigation Co., receive a water supply for a further irrigable area of 4,501 acres.

In addition to the irrigated tracts enumerated in the above table, there were, at Dec. 31, 1930, about 332 privately owned projects in Alberta, with a possible irrigable area of 56,339 acres.

Average Value of Farm Lands.—Statistics showing the average value of farm lands in Canada in 1910, and from 1915 to 1931, are given in Table 47. The values are as estimated by crop correspondents and show the rise in land values between 1915 and 1920, the general decline with moderate fluctuations since the latter date and the rapid fall in 1930 and 1931 to a point below the 1910 level for the country as a whole. The figures are interesting as indicative of the trend of land values.

47.—Average Values per Acre of Occupied Farm Lands¹ in Canada, as Estimated by Crop Correspondents, 1910, 1915-31.

Province.	1910	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Canada.....	33	35	36	38	41	46	48	40	40	37	37	38	37	38	38	37	32	28
P.E. Island.....	31	38	39	44	44	51	49	46	45	51	40	45	46	41	44	43	42	34
Nova Scotia.....	25	28	34	34	36	41	43	35	34	31	33	37	36	37	34	36	30	29
New Brunswick...	19	22	29	29	35	32	35	28	32	32	27	34	31	30	31	35	28	26
Quebec.....	43	51	52	53	57	72	70	59	58	56	53	54	53	57	54	55	48	40
Ontario.....	48	52	53	55	57	66	70	63	64	64	65	67	62	65	62	60	52	46
Manitoba.....	29	30	32	31	32	35	39	35	32	28	28	29	29	27	27	26	22	18
Saskatchewan.....	22	24	23	26	29	32	32	29	28	24	24 ²	24	25	26	27	25	22	19
Alberta.....	24	23	22	27	28	29	32	28	24	24	25	26	26	26	28	28	24	20
British Columbia.	74	125	119	149	149	174	175	122	120	100	96	88	80	89	90	90	76	74

¹ Orchards and Fruit Lands, 1931, with 1930 in brackets: Nova Scotia \$94 (\$94); Ontario \$110 (\$110); British Columbia \$300 (\$291).

² Actual returns were not collected from crop correspondents in Saskatchewan for 1924, and the estimate of 1924 is interpolated.

Subsection 12.—International Agricultural Statistics.

World Production of Cereals and Potatoes.—Table 48, constructed from data published by the International Institute of Agriculture, shows the area and yield of wheat, oats, barley, rye, corn and potatoes for the years 1930 and 1931 in countries of the Northern Hemisphere, and for the years 1929-30 and 1931-32 in countries of the Southern Hemisphere. The annual average acreages and yields

are also given for the five-year period, 1925-29 (1925-26 to 1929-30), and the areas and yields of 1931 (1931-32) are compared in percentages with those of the five-year period.

Wheat.—For 50 countries the production of wheat in 1931 was 3,652,895,000 bushels from 333,188,000 acres, as compared with 4,837,199,000 bushels from 337,072,000 acres in 1930 and 4,373,122,000 bushels from 308,242,000 acres, the five-year average, 1925-29 (1925-26 to 1929-30). Although there was only a slight decrease in wheat acreage between 1930 and 1931 the total production decreased 1,184,304,000 bushels or 24.5 p.c. As compared with the five-year average, the 1931 acreage was 8.0 p.c. greater and the production 16.5 p.c. less.

Oats.—The statistics of 38 countries show a total production in 1931 of 3,229,045,000 bushels from 144,542,000 acres, as compared with 3,526,756,000 bushels from 147,853,000 acres in 1930, and with 4,683,693,000 bushels from 146,394,000 acres, the five-year average. The 1931 area was 2.2 p.c. less and the production 8.4 p.c. less than in 1930. As compared with the five-year average, the 1931 area was nearly 1.3 p.c. less and the production 31.1 p.c. less.

Barley.—In 46 countries, the total yield in 1931 was 1,207,049,000 bushels from 73,384,000 acres, as compared with 1,446,546,000 bushels from 81,131,000 acres in 1930 and 1,603,651,000 bushels from 75,059,000 acres, the five-year average. The area in 1931 was 10.6 p.c. less and the yield 16.6 p.c. less than in 1930 and, compared with the five-year average, the acreage in 1931 was 2.2 p.c. less and the yield 24.7 p.c. less.

Rye.—The statistics available for 33 countries show that the production in 1931 was 815,912,000 bushels from 115,542,000 acres, as compared with 996,963,000 bushels from 121,420,000 acres in 1930, and 1,812,374,000 bushels from 112,031,000 acres, the five-year average. The area in 1931 was 4.8 p.c. less and the production 18.2 p.c. less than in 1930. Compared with the five-year average, the 1931 acreage was 3.1 p.c. more and the production 55.0 p.c. less.

Corn.—In 26 countries, the production in 1931 was 3,272,491,000 bushels from 168,286,000 acres, as compared with 3,152,120,000 bushels from 161,904,000 acres in 1930, and 3,846,497,000 bushels from 156,353,000 acres, the five-year average. The area for 1931 was 3.9 p.c. more and the production 3.8 p.c., more than in 1930 and, compared with the five-year average, the 1931 area was 7.6 p.c. more and the production 14.9 p.c. less.

Potatoes.—In 33 countries, the total yield in 1931 was 5,272,888,000 bushels from 44,460,000 acres, as compared with 5,412,042,000 bushels from 43,933,000 acres in 1930, and with 6,568,648,000 bushels from 43,025,000 acres, the five-year average. The 1931 acreage is 2.0 p.c. more and the production 2.6 p.c. less than in 1930 while, as compared with the five-year average, the 1931 acreage was 3.3 p.c. more and the production 19.7 p.c. less.

48.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1930 and 1931, with Five-year Average for 1925-29.

Crop and Country.	Acreage.				Production.			
	1930.	1931.	Average 1925-29.	1931 in p.c. of Average.	1930.	1931.	Average 1925-29.	1931 in p.c. of Average.
	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
Wheat—								
NORTHERN HEMISPHERE.								
EUROPE.								
Austria.....	508	507	504	100.6	12,008	9,384	11,309	83.0
Belgium.....	411	381	375	101.7	13,236	13,817	14,799	93.4
Bulgaria.....	3,006	2,964	2,662	111.3	57,317	61,195	40,474	151.3
Czechoslovakia.....	1,965	2,047	1,873	109.3	50,606	41,232	47,809	86.2
Denmark.....	249	259	247	105.0	10,216	9,921	10,382	95.6
Estonia.....	90	99	66	150.6	1,635	1,738	1,009	172.2
Finland.....	51	47	40	116.7	1,210	1,161	936	124.0
France.....	13,280	12,499	13,240	94.4	228,104	269,630	291,353	92.5
Germany.....	4,402	5,355	4,067	131.6	139,216	155,545	119,763	129.9
Great Britain and Northern Ireland.....	1,351	1,200	1,496	80.2	40,125	35,877	49,638	72.3
Greece.....	1,396	—	1,251	—	9,709	12,228	12,223	100.0
Hungary.....	4,187	4,004	3,821	104.8	84,338	69,186	79,542	87.0
Italy.....	11,917	12,075	12,156	99.3	210,069	247,933	229,203	108.2
Latvia.....	179	215	139	154.3	4,066	3,888	2,299	147.8
Lithuania.....	526	478	352	136.1	11,327	8,340	6,079	137.2
Luxemburg.....	25	23	30	74.8	442	406	573	70.8
Malta.....	9	10	9	105.8	303	277	292	94.9
Netherlands.....	142	191	135	141.1	6,056	6,268	6,037	103.8
Norway.....	30	29	25	113.3	720	752	646	116.3
Poland.....	4,066	4,495	3,304	136.0	82,321	83,220	60,508	137.5
Portugal.....	1,120	1,161	1,071	108.4	13,817	13,216	10,171	129.4
Roumania.....	7,551	8,566	7,746	110.6	130,770	135,295	105,530	128.2
Russia.....	83,795	92,369	71,278	129.6	1,083,921	—	795,739	—
Scotland.....	54	50	56	90.0	2,128	1,792	2,203	81.4
Spain.....	11,134	11,245	10,704	105.1	146,699	134,426	146,179	92.0
Sweden.....	646	684	488	140.2	21,469	19,621	15,635	125.5
Switzerland.....	180	179	171	104.6	5,769	5,941	5,595	106.2
Yugoslavia.....	5,365	5,390	4,708	114.5	80,326	98,789	80,986	122.0
AMERICA.								
Canada.....	24,898	26,115	23,104	113.0	420,672	304,144	430,704	70.6
Mexico.....	1,216	1,424	1,261	113.0	11,446	15,778	10,760	146.6
United States.....	61,138	54,949	57,692	95.2	858,160	892,271	822,794	108.4
ASIA.								
British India.....	31,654	32,181	31,475	102.2	390,843	347,275	319,424	108.7
Japan.....	1,198	1,231	1,174	104.9	29,538	30,892	29,695	104.0
Korea.....	848	—	890	—	8,985	8,951	9,342	95.8
Manchuria.....	3,413	3,920	2,731	143.5	50,857	58,394	45,167	129.3
Syria and Lebanon.....	1,166	1,168	1,147	101.8	18,555	13,929	12,392	112.4
AFRICA.								
Algeria.....	4,027	3,640	3,654	99.6	32,439	25,649	29,649	86.5
Cyrenaica.....	38	18	33	53.2	155	—	198	—
Egypt.....	1,522	1,649	1,554	106.1	39,753	46,071	40,049	115.0
Eritrea.....	7	22	27	82.4	44	184	101	181.8
French Morocco.....	2,957	2,732	2,632	103.8	21,302	34,708	27,588	125.8
Kenya.....	71	59	57	104.3	648	422	597	70.6
Tripolitania.....	12	17	34	50.7	18	77	107	71.9
Tunis.....	1,923	1,927	1,719	112.1	10,398	13,962	11,780	118.5
SOUTHERN HEMISPHERE.¹								
Argentina.....	21,283	17,295	20,484	84.4	235,958	218,621	243,026	90.0
Australia.....	18,212	13,990	12,797	109.3	213,266	175,000	136,006	128.7
Chile.....	1,610	1,426	1,602	89.0	21,190	—	28,758	—
New Zealand.....	243	276	227	121.8	6,500	—	7,637	—
Union of South Africa.....	1,137	1,475	878	168.0	10,180	14,230	8,212	173.3
Uruguay.....	864	1,154	1,056	109.3	7,369	11,759	12,224	96.2
Totals.....	337,072	333,188	308,242	108.1	4,837,199	3,652,895	4,373,122	83.5

¹ The statistics of the Southern Hemisphere are given for the years 1930-31 and 1931-32; the averages are for the five-year period 1925-26 to 1929-30 and the percentage columns give 1931-32 figures as percentages of the averages.

48.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1930 and 1931, with Five-year Average for 1925-29—continued.

Crop and Country.	Acreage.				Production.			
	1930.	1931.	Average 1925-29.	1931 in p.c. of Average.	1930.	1931.	Average 1925-29.	1931 in p.c. of Average.
	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
Oats—								
NORTHERN HEMISPHERE.								
EUROPE.								
Austria.....	772	720	757	95.2	27,606	22,956	29,972	76.6
Belgium.....	674	729	678	107.5	38,223	48,384	47,869	101.1
Bulgaria.....	345	295	338	87.4	7,616	8,605	7,287	118.1
Czechoslovakia.....	2,035	2,031	2,086	97.4	90,101	84,368	96,865	87.1
Denmark.....	958	938	1,028	91.2	68,725	64,761	66,254	97.7
Estonia.....	368	367	357	102.7	10,870	11,296	8,343	135.4
Finland.....	1,137	1,149	1,098	104.7	41,458	45,886	39,922	114.9
France.....	8,460	8,638	8,598	100.5	285,955	344,222	349,690	98.4
Germany.....	8,499	8,309	8,640	96.2	389,690	427,482	449,664	95.5
Great Britain and Northern Ireland.....	2,947	2,772	3,040	91.2	158,556	146,158	169,940	86.0
Greece.....	336	—	262	—	5,891	6,614	4,900	135.0
Hungary.....	1,608	596	687	86.7	17,999	12,636	25,734	49.1
Irish Free State.....	644	628	656	95.8	44,250	—	45,060	—
Italy.....	262	1,222	1,243	98.3	36,828	41,658	43,103	96.6
Latvia.....	790	795	740	107.5	23,537	23,611	17,124	137.9
Lithuania.....	855	900	828	108.7	26,871	28,065	21,394	131.2
Luxemburg.....	70	75	72	103.8	2,750	2,721	3,035	89.7
Netherlands.....	370	366	377	97.1	20,454	18,960	22,913	82.7
Norway.....	239	237	241	98.2	13,621	9,494	12,574	75.5
Poland.....	5,404	5,367	5,007	107.2	161,738	159,109	160,159	99.3
Portugal.....	429	371	476	77.9	7,778	—	5,436	—
Roumania.....	2,686	2,154	2,806	76.8	79,679	46,175	70,368	65.6
Russia.....	44,267	43,249	41,262	104.8	—	—	1,020,185	—
Spain.....	1,940	1,986	1,873	106.0	49,995	41,670	40,354	103.3
Sweden.....	1,629	1,590	1,763	90.2	79,058	69,767	81,595	85.5
Switzerland.....	48	45	50	90.6	2,659	2,308	2,900	79.6
Yugoslavia.....	1,037	979	936	104.6	19,634	18,242	23,586	77.3
AMERICA.								
Canada.....	13,259	12,871	12,831	100.3	449,595	348,795	416,583	83.7
United States.....	39,729	39,722	42,175	94.2	1,277,764	1,112,142	1,294,962	85.9
ASIA.								
Syria and Lebanon.....	28	27	41	66.8	547	570	880	64.7
AFRICA.								
Algeria.....	635	557	605	92.2	16,561	8,212	12,869	63.8
French Morocco.....	103	73	71	103.9	2,357	2,359	1,747	135.0
Tunis.....	124	99	104	94.7	2,067	3,238	2,577	125.7
SOUTHERN HEMISPHERE. ¹								
Argentina.....	3,937	3,470	3,387	102.5	49,604	65,449	66,493	98.4
Chile.....	198	156	193	80.9	5,109	—	6,870	—
New Zealand.....	322	329	320	102.9	4,314	—	4,639	—
Union of South Africa.....	535	578	618	93.5	5,920	—	7,131	—
Uruguay.....	179	152	150	101.8	1,376	3,132	2,716	115.3
Totals.....	147,853	144,542	146,394	98.7	3,526,756	3,229,045	4,683,693	68.9

¹ The Statistics of the Southern Hemisphere are given for the years 1930-31 and 1931-32; the averages are for the five-year period 1925-26 to 1929-30 and the percentage columns give 1931-32 figures as percentages of the averages.

48.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1930 and 1931, with Five-year Average for 1925-29—continued.

Crop and Country.	Acreage.				Production.			
	1930.	1931.	Average 1925-29.	1931 in p.c. of Average.	1930.	1931.	Average 1925-29.	1931 in p.c. of Average.
	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
Barley—								
NORTHERN HEMISPHERE.								
EUROPE.								
Austria.....	430	422	371	113.8	12,278	10,665	10,911	97.2
Belgium.....	84	70	77	91.3	3,825	3,552	3,947	90.0
Bulgaria.....	692	607	562	108.0	19,869	16,560	12,204	135.7
Czechoslovakia.....	1,667	1,775	1,770	100.3	55,934	49,357	59,579	82.8
Denmark.....	928	889	826	107.6	48,272	44,553	41,542	107.2
Estonia.....	276	279	285	98.0	5,893	5,918	5,112	115.8
Finland.....	272	276	273	100.8	6,223	6,430	6,487	99.1
France.....	1,842	1,960	1,776	110.4	42,457	54,807	50,742	108.0
Germany.....	3,753	4,001	3,692	108.4	131,373	138,628	131,611	105.3
Great Britain and Northern Ireland.....	1,022	1,030	1,166	88.3	34,481	36,027	44,927	80.2
Greece.....	534	—	453	—	7,831	9,172	6,768	135.5
Hungary.....	1,131	1,164	1,054	110.4	27,605	21,352	27,330	78.1
Irish Free State.....	116	115	131	87.9	5,517	—	6,253	—
Italy.....	583	530	577	91.8	11,202	11,020	11,285	97.7
Latvia.....	437	453	436	104.0	8,605	8,809	7,126	123.5
Lithuania.....	529	474	494	95.9	10,884	10,845	10,065	107.7
Luxemburg.....	7	11	8	130.2	206	266	233	113.9
Malta.....	7	7	6	106.0	295	285	288	99.0
Netherlands.....	76	70	71	99.3	4,040	3,674	3,992	92.0
Norway.....	134	138	143	97.1	4,922	4,207	4,929	85.3
Poland.....	3,048	3,144	2,841	110.1	67,238	67,781	64,099	105.2
Portugal.....	171	148	181	81.8	2,367	—	1,813	—
Roumania.....	4,881	4,742	4,360	108.8	108,916	64,964	75,487	86.1
Russia.....	18,417	16,965	17,724	95.7	—	—	259,770	—
Scotland.....	107	88	121	72.6	4,433	3,453	5,068	68.1
Spain.....	4,543	4,644	4,456	104.2	103,926	90,727	93,305	97.2
Sweden.....	326	311	348	89.3	11,021	10,916	11,916	89.9
Switzerland.....	16	18	16	110.1	496	565	556	101.6
Yugoslavia.....	1,133	1,105	976	113.3	18,574	18,000	17,379	103.6
AMERICA.								
Canada.....	5,559	3,768	4,297	87.7	135,160	67,382	104,550	64.4
United States.....	12,662	11,471	10,313	111.2	304,601	198,965	260,476	76.4
ASIA.								
Japan.....	2,110	2,105	2,336	90.1	72,472	76,522	84,785	90.3
Korea.....	2,382	—	2,209	—	39,849	40,877	36,805	111.1
Syria and Lebanon.....	831	941	706	133.4	22,621	14,193	14,055	101.0
AFRICA.								
Algeria.....	3,675	3,178	3,445	92.8	38,183	27,069	34,712	78.0
Cyrenaica.....	127	82	133	61.3	574	—	1,609	—
Egypt.....	345	306	368	83.0	10,506	9,693	11,334	85.5
Eritrea.....	47	62	58	105.9	432	666	346	192.3
French Morocco.....	3,207	3,156	3,028	104.2	37,491	51,341	45,695	112.4
Tripolitania.....	124	99	274	36.0	344	551	1,268	43.5
Tunis.....	1,202	1,087	1,243	87.5	5,512	8,268	8,741	94.6
SOUTHERN HEMISPHERE.								
Argentina.....	1,422	1,439	1,171	122.8	14,238	18,832	16,587	113.5
Chile.....	166	144	173	83.4	3,876	—	5,585	—
Union of South Africa.....	70	76	80	95.3	1,046	—	1,293	—
New Zealand.....	25	24	23	102.6	828	—	953	—
Uruguay.....	15	10	8	123.3	130	157	133	118.4
Totals.....	81,131	73,384	75,059	97.8	1,446,546	1,207,049	1,603,651	75.3

48.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1930 and 1931, with Five-year Average for 1925-29—continued.

Crop and Country.	Acreage.				Production.			
	1930.	1931.	Average 1925-29.	1931 in p.c. of Average.	1930.	1931.	Average 1925-29.	1931 in p.c. of Average.
	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
Rye—								
NORTHERN HEMISPHERE.								
EUROPE.								
Austria.....	927	904	946	95.5	20,636	18,322	20,102	91.1
Belgium.....	574	553	568	97.3	18,630	20,483	21,797	94.0
Bulgaria.....	657	597	481	124.3	12,620	12,072	7,329	164.7
Czechoslovakia.....	2,586	2,470	530	97.3	70,374	54,631	66,099	82.7
Denmark.....	369	332	448	74.1	10,026	8,661	11,337	76.4
England and Wales.....	32	33	28	115.4	840	—	785	—
Estonia.....	367	356	354	100.4	8,885	5,820	5,937	98.0
Finland.....	556	554	553	100.1	14,104	11,792	11,985	98.4
France.....	1,846	1,775	1,953	90.9	28,394	31,013	35,648	87.1
Germany.....	11,642	10,789	11,614	92.9	302,317	262,982	299,040	87.9
Greece.....	157	—	121	—	1,837	1,815	1,549	117.1
Hungary.....	1,611	1,484	1,649	90.0	28,406	21,575	30,064	71.8
Irish Free State.....	—	—	—	—	—	—	—	—
Italy.....	302	288	307	93.7	6,127	6,195	6,516	95.1
Latvia.....	660	572	627	91.1	14,377	5,531	9,335	59.3
Lithuania.....	1,197	1,257	1,192	105.4	25,177	16,282	20,379	79.9
Luxemburg.....	22	16	17	96.3	480	336	367	91.5
Netherlands.....	475	444	489	90.8	14,892	13,125	15,832	82.9
Norway.....	19	15	21	72.5	556	378	580	65.2
Poland.....	14,567	14,262	14,016	101.8	273,928	224,304	243,534	92.2
Portugal.....	406	593	488	121.4	4,901	—	4,401	—
Roumania.....	968	1,006	720	139.8	18,288	13,962	10,662	130.9
Russia (Soviet Union).....	72,333	69,237	66,620	103.9	—	—	873,285	—
Spain.....	1,551	1,516	1,717	88.3	21,544	18,512	32,847	77.6
Sweden.....	595	510	741	68.8	18,005	11,745	19,609	59.9
Switzerland.....	49	46	49	93.5	1,484	1,402	1,629	86.0
Yugoslavia.....	626	623	531	117.4	7,825	7,614	7,407	102.8
AMERICA.								
Canada.....	1,448	778	794	97.9	22,018	5,322	12,937	41.1
United States.....	3,543	3,143	3,546	88.6	45,379	32,746	44,737	73.2
AFRICA.								
Algeria.....	5	3	3	104.7	69	37	41	89.1
French Morocco.....	—	—	—	—	—	—	—	—
SOUTHERN HEMISPHERE.								
Argentina.....	1,322	1,378	901	153.0	4,724	9,055	5,986	151.3
Chile.....	8	7	7	95.2	120	—	118	—
Totals.....	121,420	115,542	112,031	103.1	996,963	815,912	1,812,374	45.1
Corn—								
NORTHERN HEMISPHERE.								
EUROPE.								
Austria.....	143	148	146	101.7	4,756	5,917	4,447	133.1
Bulgaria.....	1,689	1,676	1,671	100.3	30,515	39,256	26,274	149.4
Czechoslovakia.....	360	344	343	100.5	9,783	8,965	9,577	93.6
France.....	833	833	848	98.2	22,379	23,654	16,837	140.5
Greece.....	—	—	—	—	—	—	—	—
Hungary.....	2,605	2,735	2,662	102.8	55,394	57,605	70,618	81.6
Italy.....	3,745	3,664	3,759	—	117,562	78,188	96,013	—
Poland.....	10,939	11,749	10,606	110.8	177,942	250,384	178,534	140.2
Portugal.....	9,684	9,801	8,386	116.9	—	—	141,275	—
Roumania.....	6,097	6,158	5,575	1,105	136,395	126,688	120,279	105.3
Russia (Soviet Union).....	1,106	1,053	1,057	99.6	28,844	26,389	23,471	112.4
Spain.....	3	3	3	76.4	114	114	150	75.9
Switzerland.....	233	243	217	111.6	3,299	4,099	3,464	118.3
Yugoslavia.....	868	865	827	104.6	16,722	—	14,196	—

48.—Acreage and Production of Cereals and Potatoes in Countries of the World, 1930 and 1931, with Five-year Average for 1925-29—concluded.

Crop and Country.	Acreage.				Production.			
	1930.	1931.	Average 1925-29.	1931 in p.c. of Average.	1930.	1931.	Average 1925-29.	1931 in p.c. of Average.
	000 acres.	000 acres.	000 acres.	p.c.	000 bush.	000 bush.	000 bush.	p.c.
Corn—concluded.								
AMERICA.								
Canada.....	161	131	174	75.2	826	5,426	6,613	82.1
Mexico.....	7,599	7,939	7,709	103.0	54,201	75,962	78,574	96.7
United States.....	100,743	104,970	99,560	105.4	2,060,185	2,556,863	2,745,001	93.1
ASIA.								
Syria and Lebanon.....	61	67	121	55.2	1,071	1,376	2,446	56.2
AFRICA.								
Algeria.....	24	24	25	97.0	292	238	257	92.7
French Morocco.....	649	837	561	149.3	5,990	3,715	5,309	70.0
Tunis.....	37	44	45	99.2	236	197	192	102.5
Eritrea.....	22	22	13	166.7	354	236	142	166.7
Kenya.....	206	196	201	97.6	5,892	3,597	4,420	81.4
Madagascar.....	229	227	207	110.0	2,898	3,622	4,111	88.1
SOUTHERN HEMISPHERE.								
Argentina.....	13,776	14,468	11,549	125.3	413,763	—	292,103	—
Chile.....	92	89	88	101.0	2,707	—	2,194	—
Totals.....	161,904	168,286	156,353	107.6	3,152,120	3,272,491	3,846,497	85.1
Potatoes—								
NORTHERN HEMISPHERE.								
EUROPE.								
Austria.....	466	479	452	106.1	97,482	86,865	83,216	104.3
Belgium.....	402	425	408	104.2	108,847	131,425	124,584	105.5
Bulgaria.....	35	32	26	122.3	3,086	2,866	1,381	207.5
Czechoslovakia.....	1,639	1,775	1,793	99.0	328,867	357,375	319,525	111.8
Denmark.....	167	156	173	90.3	36,172	33,069	36,242	91.2
Estonia.....	168	168	166	100.9	31,713	31,398	26,246	119.6
Finland.....	175	174	171	101.6	28,856	26,661	27,521	96.9
France.....	3,532	3,516	3,606	97.5	511,672	502,190	523,936	113.6
Germany.....	6,930	6,979	6,945	100.5	1,730,585	1,611,787	1,400,982	115.0
Great Britain and North- ern Ireland.....	684	709	800	88.6	166,486	142,015	198,489	71.5
Greece.....	—	—	—	—	—	—	—	—
Hungary.....	673	710	652	108.9	67,660	54,074	72,221	74.9
Irish Free State.....	346	348	369	94.3	87,265	—	87,854	—
Italy.....	864	874	868	100.7	71,794	55,226	73,064	75.6
Latvia.....	231	247	201	122.7	40,568	42,880	28,476	150.6
Lithuania.....	403	409	347	117.9	69,404	72,089	53,810	134.0
Luxemburg.....	40	41	40	103.4	5,876	7,832	6,363	123.1
Malta.....	7	7	7	97.0	1,074	1,117	999	118.8
Netherlands.....	397	401	432	92.7	111,691	94,496	122,109	77.4
Norway.....	117	116	120	97.3	28,143	28,451	31,521	90.3
Poland.....	6,602	6,716	6,125	109.6	1,135,448	1,138,609	972,146	117.1
Roumania.....	468	474	482	98.2	66,654	87,302	70,976	123.0
Russia (Soviet Union).....	14,378	15,083	13,477	111.9	—	—	1,604,057	—
Spain.....	915	—	812	—	154,437	124,162	139,670	88.9
Sweden.....	336	327	366	89.4	66,112	55,033	63,397	86.8
Switzerland.....	120	113	117	96.7	21,678	27,410	26,054	105.2
AMERICA.								
Canada.....	571	584	552	105.8	80,402	87,175	74,577	116.9
United States.....	3,038	3,382	3,297	102.6	333,210	376,248	374,520	100.5
ASIA.								
Syria and Lebanon.....	18	20	14	144.1	1,808	1,576	1,711	92.1
AFRICA.								
Algeria.....	26	27	25	108.3	1,528	1,205	1,540	78.2
Madagascar.....	50	45	66	69.3	2,205	2,352	3,159	74.4
SOUTHERN HEMISPHERE.								
Chile.....	111	101	93	108.8	16,435	—	13,556	—
New Zealand.....	24	22	23	98.4	4,984	—	4,746	—
Totals.....	43,933	44,460	43,025	103.3	5,412,042	5,272,888	6,568,648	80.3

World Exports and Imports of Wheat and Flour.—Statistics showing the exports and imports of wheat and wheat flour for the principal countries of the world in the crop year ended July 31, 1931, with comparative figures for the previous crop year, are shown in Table 49. This information is taken from data published by the International Institute of Agriculture. During the crop year 1930-31, a total of 724,644,000 bushels of wheat is shown as exported, as compared with 625,568,000 bushels in the previous year. The four chief exporting countries made the following contributions during the crop year 1930-31, figures for the previous year being shown within brackets, in bushels: Canada, 228,480,000 (155,766,000); Australia, 127,506,000 (40,781,000); Argentine, 118,386,000 (144,812,000); United States, 77,256,000 (95,470,000). Exports of wheat flour amounted to 37,130,000 barrels and 36,916,000 barrels respectively during the crop years 1930-31 and 1929-30. Shipments from the United States totalled 11,818,000 barrels in 1930-31 as compared with 12,861,000 barrels in 1929-30; from Canada, 3,702,000 and 6,778,000 barrels respectively and from Australia 5,308,000 and 4,676,000 barrels. Canada was by far the largest exporter of wheat—the quantity exported being almost twice that of any other country. Canada also occupies second place as exporter of wheat flour and is the largest exporter of wheat and wheat flour expressed in wheat for both years.

The total imports of wheat for the crop year ended July 31, 1931, amounted to 635,497,000 bushels, as compared with 527,141,000 bushels for the previous year. Great Britain and Northern Ireland imported 207,580,000 bushels in 1930-31, as compared with 190,076,000 in 1929-30; Italy, 83,524,000 bushels as compared with 45,249,000 bushels; France, 77,671,000 bushels as compared with 33,366,000 bushels; Belgium, 50,136,000 bushels as compared with 42,989,000 bushels; Germany, 31,342,000 bushels as compared with 52,873,000 bushels. Great Britain and Northern Ireland imported 6,539,000 barrels of wheat flour as compared with 6,371,000 barrels in the previous year, the Netherlands was next with 1,966,000 barrels as compared with 1,408,000 barrels and Irish Free State 1,714,000 barrels as compared with 1,702,000 barrels.

49.—Exports of Wheat and Flour from the Principal Wheat-exporting Countries and Imports of Wheat and Flour to the Principal Wheat-importing Countries, crop years ended July 31, 1930 and 1931.

Wheat.	Twelve months, Aug. 1—July 31.		Flour.	Twelve months, Aug. 1—July 31.	
	1929-30.	1930-31.		1929-30.	1930-31.
	bush.	bush.		brl.	brl.
Exports—			Exports—		
United States.....	95,470,000	77,256,000	United States.....	12,861,000	11,818,000
Canada.....	155,766,000	228,480,000	Canada.....	6,778,000	6,702,000
Argentina.....	144,812,000	118,386,000	Argentina.....	1,328,000	964,000
Australia.....	40,781,000	127,506,000	Australia.....	4,676,000	5,308,000
India.....	4,486,000	3,693,000	India.....	568,000	517,000
Hungary.....	16,571,000	8,745,000	Hungary.....	2,890,000	2,045,000
Roumania.....	2,131,000	14,315,000	Roumania.....	74,000	148,000
Yugoslavia.....	22,163,000	5,412,000	Japan.....	1,175,000	1,772,000
Other countries.....	43,388,000	140,851,000	Other countries.....	6,566,000	7,856,000
Totals, Exports..	525,568,000	724,644,000	Totals, Exports..	36,916,000	37,130,000

49.—Exports of Wheat and Flour from the Principal Wheat-exporting Countries and Imports of Wheat and Flour to the Principal Wheat-importing Countries, crop years ended July 31, 1930 and 1931—concluded.

Wheat.	Twelve months, Aug. 1—July 31.		Flour.	Twelve months, Aug. 1—July 31.	
	1929-30.	1930-31.		1929-30.	1930-31.
	bush.	bush.		brl.	brl.
Imports—			Imports—		
Germany.....	52,873,000	31,342,000	Germany.....	362,000	121,000
Belgium.....	42,989,000	50,136,000	Austria.....	1,919,000	1,581,000
France.....	33,366,000	77,671,000	Denmark.....	731,000	802,000
Great Britain and Northern Ireland.....	190,076,000	207,580,000	Finland.....	1,269,000	1,097,000
Irish Free State.....	8,466,000	9,866,000	Great Britain and Northern Ireland.....	6,371,000	6,539,000
Italy.....	45,249,000	83,524,000	Irish Free State.....	1,702,000	1,714,000
Netherlands.....	24,868,000	27,664,000	Netherlands.....	1,408,000	1,966,000
Sweden.....	8,304,000	4,799,000	Norway.....	702,000	712,000
Switzerland.....	15,983,000	18,493,000	Czechoslovakia.....	1,701,000	1,241,000
Czechoslovakia.....	6,007,000	11,798,000	Egypt.....	2,301,000	1,666,000
Japan.....	18,203,000	25,518,000	Other countries.....	3,007,000	2,198,000
Other countries.....	80,757,000	87,106,000			
Totals, Imports..	527,141,000	635,497,000	Totals, Imports..	21,473,000	19,637,000

World's Live Stock.—The statistics of Table 50, compiled from data published by the International Institute of Agriculture, show as nearly as possible the world situation with regard to live stock about 1930. For many countries the figures are the result of careful enumeration, while for others, they represent only quite approximate estimates.

50.—Numbers of Live Stock in Principal Countries, circa 1930.

Continent and Country.	Horses.	Cattle.	Sheep.	Swine.
Europe—				
Austria.....	232,651	2,162,346	597,413	1,473,111
Belgium.....	1,245,971	1,758,664	—	1,249,622
Bulgaria.....	482,180	1,817,437	8,739,803	1,002,088
Czechoslovakia.....	747,650	4,538,904	836,049	3,088,022
Denmark.....	494,465	3,057,438	190,984	4,871,899
Finland.....	394,850	1,902,600	1,310,000	426,000
France.....	2,985,650	15,631,140	10,451,760	6,101,811
Germany.....	3,519,504 ²	18,431,207	3,500,923	23,364,566
Great Britain and Northern Ireland.....	1,211,825 ³	7,758,551	24,669,494	2,669,922
Greece.....	323,339	831,059	5,805,646	275,656
Hungary.....	860,379	1,777,886	1,463,834	2,361,566
Irish Free State.....	447,699	4,038,344	3,515,147	1,052,211
Italy.....	967,406	6,892,722	9,896,038	3,157,433
Latvia.....	359,000	1,026,300	872,900	522,700
Lithuania.....	559,000 ²	1,170,000	1,097,000 ⁸	1,136,000
Netherlands.....	299,152	2,366,066	484,987	2,017,788
Norway.....	176,898	1,250,672	1,588,186	338,855
Poland.....	4,102,651 ²	9,399,516	2,492,101	6,047,255
Portugal.....	83,883	852,269	3,720,549	1,157,066
Roumania.....	1,809,211	3,834,133	11,920,502	2,322,977
Spain.....	598,306	3,659,639	19,370,443	4,773,333
Sweden.....	653,000	3,060,000	652,000	1,761,066
Switzerland.....	140,023	1,609,073	183,838	824,277
Union of Soviet Socialist Republics in Europe and Asia.....	31,158,400	52,581,700	89,859,900	12,182,700
Yugoslavia ¹	1,161,235	3,812,172	7,953,139	2,923,866
Northern and Central America—				
Canada.....	3,295,000	8,937,000	3,696,000	4,000,000
Cuba.....	757,774	4,864,775	101,737	590,811
Dominican Republic.....	138,600	700,720	161,913	1,019,833
Mexico ⁴	1,035,782	5,584,892	2,697,668	2,902,944
United States ¹	12,803,000	58,955,000	51,911,000	52,323,000

For footnotes see end of Table, p. 1077.

50.—Numbers of Live Stock in Principal Countries, circa 1930—concluded.

Continent and Country.	Horses.	Cattle.	Sheep.	Swine.
South America—				
Argentina.....	9,858,111	32,211,855	44,413,221	3,768,738
Brazil.....	5,253,699	34,271,324	7,933,437	16,168,549
Chile.....	323,581	2,387,940	6,263,482	331,156
Colombia.....	929,100	7,343,300	809,550	1,434,300
Peru.....	432,108	1,805,853	11,209,235	668,696
Uruguay.....	513,299	7,127,912	20,558,124	251,253
Venezuela.....	167,708	2,278,000	113,439	512,086
Asia—				
British India.....	2,218,803	146,958,583	35,743,401	—
Formosa.....	305	92,322 ⁷	341	1,750,464
Indo-China.....	98,384	1,764,237	8,631	2,367,114
Iraq.....	—	—	7,152,663 ⁸	—
Japan.....	1,490,360	1,488,240	20,728	706,151
Java and Madura.....	252,200	3,601,694	1,291,677	98,211
Korea.....	55,544	1,611,585	1,561	1,386,891
Philippines.....	341,169 ⁵	1,145,921	124,844	2,454,286
Siam.....	293,299	4,583,717	—	864,247
Syria and Lebanon.....	52,358	385,325	2,682,450	14,160
Turkey in Europe and Asia.....	463,077	4,801,537	10,639,312	— ²
Africa—				
Algeria.....	173,181	938,695	7,168,054	87,674
Egypt.....	35,866 ¹	776,008	1,129,033	17,651
French Morocco ⁶	206,139	2,092,002	7,975,930	59,083
French Soudan.....	69,751	1,100,000	3,000,000	24,738
Kenya.....	2,403	5,192,824	3,227,772	17,439 ⁹
Madagascar.....	2,157	7,048,373 ⁸	262,630	531,006
Nigeria.....	175,146	2,973,243	2,376,225	27,424
Southern Rhodesia.....	2,557	2,467,601	353,810	61,379
Territory of S.W. Africa.....	19,376	555,260	1,600,991	8,239
Tanganyika.....	89	5,170,162	2,262,102	3,155
Tunis.....	95,083	502,419	2,975,514	16,661
Union of South Africa.....	856,040	10,517,984	45,010,446	835,236
Oceania—				
Australia.....	1,845,614	11,202,134	104,558,342	1,018,324
New Zealand.....	297,195	3,765,668	30,841,287	487,793

¹On farms only. ²Exclusive of army horses. ³Incomplete data. ⁴In rural districts only. ⁵Horses, asses and mules. ⁶Number registered for fiscal purposes. ⁷Foreign and cross-bred cattle and zebras. ⁸Sheep and goats. ⁹Swine belonging to Europeans only.

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